THE BUILDER

A Journal for the Architect & Constructor

JAN. 20, 1928 No. 4433

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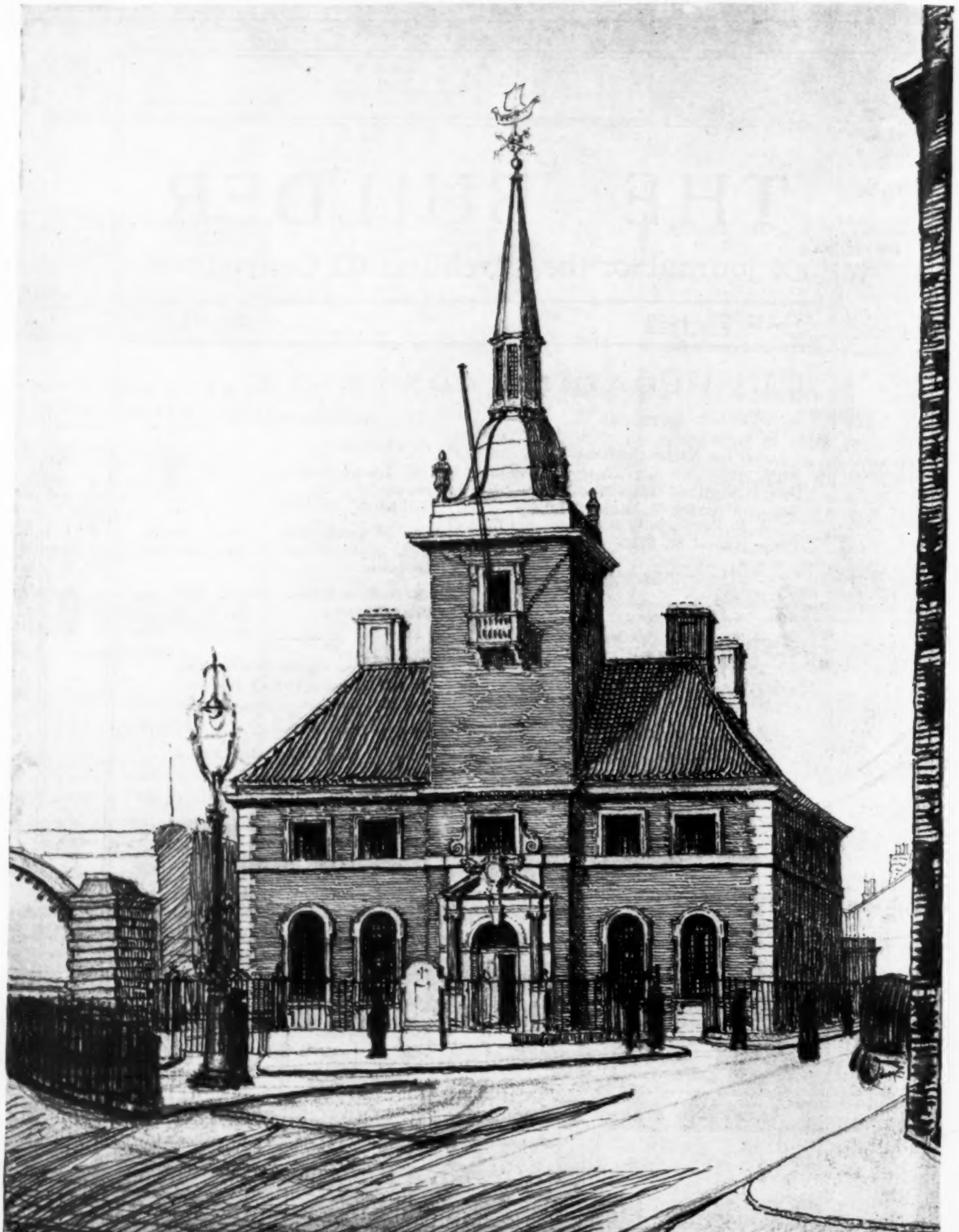
Published every Friday

THE BUILDER LIMITED

CATHERINE STREET AND YORK STREET, ALDWYCH, LONDON, W.C.2

Telephone : Regent 5940-1

86TH YEAR



New Norwegian Church, Rotherhithe.

MR. J. L. SEATON DAHL, F.R.I.B.A., Architect.

(From a drawing by MR. FRANCIS H. BULMER, A.R.I.B.A.)

THE BUILDER

A JOURNAL FOR THE ARCHITECT AND CONSTRUCTOR

WITH WHICH IS INCORPORATED "THE BRITISH ARCHITECT."

VOL. CXXXIV. No. 4433 JANUARY 20, 1928.

THE MASTER CRAFTSMAN

THE relative values of architecture and literature are revealed in the written works of Thomas Hardy, who ended life as he had begun it, a student of men and things. His death deprives English literature of a giant, as it robs architecture of a friend. Born on June 2, 1840, near Dorchester, inheriting the homely comedy of the countryside, he passed by turn to contemplation of the tragic anomalies of life, and finally emerged as a visionary and seer. The son of a Dorset stonemason in modest circumstances, he was denied the advantages of more than an elementary education. But this was no deterrent to one so austere and detached: French and Latin he learned privately. In all other particulars his life was that of the country-bred boy. He trudged to school from Upper Bockhampton to Dorchester, he played with other boys of the village, bathed in streams, and subconsciously observed and stored up impressions of the life about him. The boy had started early on the long road that led past Christminster to the Abbey. If the truth could be set down in black and white, the secret of Hardy's life is to be found in the sixteen years of boyhood. His father, the master mason, had ambitions for his son, he wished him to become an architect. Accordingly at the age of seventeen Thomas was articled to John Hicks, of Dorchester, who specialised in church repairs. To quote the great novelist's own words: "I spent some time in the office at Dorchester making drawings of churches and old buildings, and studying old things. After that I went to London and entered the office of Mr. Arthur Blomfield; I liked architecture but I cannot claim to be an architect. Writing always attracted me, so I spent my evenings writing, and after a time I got talked about."

At this stage Hardy's literary ability gained him the Essay Prize at the Royal Institute of British Architects. He was attending evening classes at King's College and he had contributed an article to *Chambers' Journal*, entitled "How I built myself a house." The dreariness of life in London in the middle "sixties," the controversies of "the battle of the styles," and the humdrum routine of the office in the Adelphi, held no lure for one so detached. Architecture could not claim him as a votary; he preferred to use its scenic qualities as a background for the figurants already claiming his imaginative brain. But architecture had moulded his thoughts, and he turned instinctively to the scenes of his childhood, the hoary church towers and long, low thatched farmhouses and cottages of Wessex; in a word, that picture of England which dates from the Conquest. The parting of the ways in his career, and the definite abandoning of architecture did not take place until he was certain of his latent powers as a novelist. Thenceforward the intuition for literary craftsmanship, that placing of one clear-cut fact upon another, which he had imbibed from the dust in his father's yard, served him in good stead. In 1870 he had completed his first novel. This he offered to a London publisher, but it did not meet with the approval of Meredith, then reader to the firm. Nothing discouraged, Hardy produced "Desperate Remedies," which was published in 1871. The next year appeared that charming idyll, "Under the Greenwood Tree," and a year later "A Pair of Blue Eyes." As yet the public had not enough discernment to appreciate the genius who was "writing in the evening." But the rising novelist had not long to wait, for the opening chapters of "Far from the Madding Crowd," published in 1874, took London by surprise. The Victorian public, accustomed to give authors definite positions, such as had previously been given to Dickens and Thackeray, at once accorded Hardy the right to portray "Wessex." Hardy was now launched as a writer; he had no further need to regard the practice of architecture as a last expedient. The incongruity of social life, with its struggles and make-beliefs caused him to adventure "The Hand of Ethelberta"; this was followed two years later, by "The Return of the Native." In the early eighties attention was being given to the period of the Napoleonic Wars, and to show his own appreciation of that period Hardy wrote "The Trumpet Major." This book enabled the novelist to contrast the contemporary life of early nineteenth-century Wessex with the larger issues then at stake. Perhaps it marks the beginning of the theme for "The Dynasts."

In "The Laodicean," published in 1881, we encounter the subject of architecture and the trials of a young architect. This studied comedy reveals feminine caprice contrasted with youthful ambition engaged to alter an old castle. From 1882 to 1884 the same fantastic sense of comedy accompanies his lighter works; for instance, "Two on a Tower" and "The Romantic Adventure of a Milkmaid." In 1886 the untiring pen produced "The Mayor of Casterbridge," a theme partly tragic, showing the blending of the old Wessex traditions with mid-Victorian innovations.

At this juncture Hardy's pen was in tune with the sympathy of the public, the demand being met by short, interesting, whimsical novels. "The Woodlanders," 1887; "Wessex Tales." 1889; "A Group of Noble Dames," 1889; and "Life's Little Ironies," 1884; were each and all well received. But the mirror Hardy held up to nature showed the craftsman the limitations of method which, while artistic, did not touch upon the deeper realities of life. Hardy had become stern and more critical, more dissatisfied, not only with his own work, but with the surging blindness of life. He desired to portray realism unadorned. "Tess of the D'Urbervilles," which appeared in 1894, and "Jude the Obscure," disturbed public opinion. The great artist, in these works, stunned the public and the Church. The theme in both cases was too frank to be accepted. Time, however, has, speaking generally, proved Hardy to be right.

The sensitive nature of the author recoiled under the attacks. He said "I am cured of my interest in novel writing." Beyond publishing "The Well Beloved," there were to be no more incursions into the realms of comedy, fantasy or realistic tragedy. But he was only at the middle stage. The amazing thing was to happen when the great prose writer turned to poetry. In 1898 appeared "Wessex Poems," followed in 1902 by "Poems of the Past and Present." The public unaccustomed to double-barrelled genius, received these works with little enthusiasm. But the whole attitude of the literary world changed when at the age of 64, Hardy published the epic-drama "The Dynasts." At once it was recognised that a work was in being without compeer in the literature of the country.

It is upon this marvellous work that the fame of the great craftsman will rest. The change from portraying Wessex life and scenery to the staging of a world drama was dramatic. The tense austerity and detachment, nay the very fibres of Hardy's nature became part of the shaping of this astonishing poem. The experienced writer had to construct poetical machinery of his own to accomplish the gigantic task of correlating narrative with portent, philosophy with fact, realism with the mood of old Europe. He had to direct the unity of the drama by the agency of ironic spirits, shades and pities. The Greek viewpoint accorded with the period of action; it was at one with the awakening of mediæval Europe to the tragedy of modernism. The "Dynasts" was the crowning work of a master craftsman who built up his career unaided save by his own genius. Pity he had in plenty for humanity; his conception of the Universe and the Intelligence was that of Blake the artist poet. Hardy's canvas was unlimited by time or space; his conscious purpose was to illuminate mundane affairs with flashes of intellect; but he never lost his love for his own region of England. The profession of architecture joins hands with that of literature at the passing of a genius. And in the crowning honour of burial at Westminster Abbey is evidenced the homage of an Empire.

NOTES

The New Form of Building Contract.

IT is a matter for very hearty congratulations that the Conditions of Contract Conference set up for the Building Trades in 1923 has come to a complete agreement as to an amended form of Standard Building Contract for the Building Trade in England and Wales. The need for a standard form of building contract, acceptable to all parties, has been felt for many years past, and considerable discussion has taken place between architects and builders to this end, but for a long time with little success. Judging from the detailed consideration which is given to the new form by Mr. E. J. Rimmer, in the first of a short series of articles on the new form which he is writing for us (see p. 145), we believe that the agreement which has been reached will give satisfaction, not only to builders, but to most, if not all, architects.

The Architects Registration Bill.

IN the course of a special appeal to members of the R.I.B.A. for support of the Architects Registration Bill, 1928, the President of the Institute writes: "The Council of the Royal Institute asks every member of the R.I.B.A. to co-operate by writing at once to the member or members of Parliament in his constituency asking them to ballot for the Bill. Members will realise that the chances of obtaining a place in the ballot are increased in proportion to the number of members of Parliament who undertake to ballot and if successful introduce the Bill, and if the members of the Institute will respond as they did on the previous occasion, members of Parliament will be impressed as they were before by the weight of professional opinion in favour of the principle of Registration. Any replies received from members of Parliament in support or otherwise should be forwarded to the Registration Committee for consideration and necessary action."

Thomas Hardy, O.M.

THE death of Thomas Hardy removes the leading figure from among English novelists, and one who, in his work, always showed an understanding of architecture. This was, of course, due to his early training as an architect under Sir Arthur Blomfield, A.R.A. He was a member of the Architectural Association and his name will be found in the R.I.B.A. Kalender as the Essay Medallist of 1862. This medal has fallen upon evil days of late, in spite of the considerable cash prize that now accompanies it, and the words "not awarded" are far too common. Let us hope that some of the newcomers to the profession will be tempted to follow in Thomas Hardy's steps and take this medal rather more seriously for the future. When our eminent contemporaries reach extreme old age they leave a gap that makes their loss felt none the less keenly.

The New Criticism.

A SPATE of criticism has been let loose upon the design of the new Shakespeare Theatre at Stratford. Most of it can hardly be regarded as serious criticism; it is merely irrelevant comment. The universal appeal of Shakespeare's genius, coupled with a winning design by a girl architect have been responsible, no doubt, for this extraordinary outburst of public comment. Business men who have written books on Shakespeare or acted in amateur productions of his plays have rushed into print in the belief that their interpretation of Shakespeare's genius entitles them to a narrow opinion upon architectural expression. Even the city typist has been drawn into the discussion. She says: "I know nothing at all about art, but I know what is pleasing and what is not. I don't know how anybody with an eye for the beautiful could ever express admiration of it. It looks so very ugly." Surely the public Press can do something better than this! We know—to our cost—the appalling results that follow from this glib and absurd distinction between what is art and what is pleasing. It must be in some such reasoning that the public can turn a countryside into a wilderness of ugliness. Here is the real opportunity for the public to prove that it has the remotest interest in architecture. Until it has begun to see the ugliness at its door it is—to be quite frank—not in a position to offer any helpful opinion upon a genuine architectural competition.

The Hanging Garden (Giardino Pensile) in the Ducal Palace of the Gonzaga at Mantua.

(From "The Gonzaga—Lords of Mantua." See page 130.)

Criticism and the Public.

WE have during the past few years devoted a considerable amount of attention to architectural criticism, and this recent outburst in the Press confirms a number of our opinions. It proves to us that there is an architecture of the public and an architecture of the architect. Or to put it otherwise, the public capacity for achieving ugliness in building is limited to the buildings which it builds for itself and by itself. To bridge this gulf between the architect and the public is supposed to be the primary duty of the critic. But now we are seeing the other side; we are seeing the public, knowing what is pleasing, giving its opinion upon architecture. We are to believe, we suppose, that the public can be taught to appreciate good architecture, in the sense that its criticism might be of real value for the new theatre we are now discussing. It is, certainly, a possibility, but it is more reasonable to suggest the opposite view—that it should be prevented from propagating its own ugliness to begin with. Clearly, the gulf to be bridged is wide.

The Public Attitude.

THERE are amusing issues arising out of the welter of opinions upon the new theatre. It has been judged, we are told, to be structurally and functionally excellent for its purpose. This has taken a solid foothold from a public that prides itself on what it wants and needs. It is essentially practical, whereas the architect is supposed to be the opposite. So runs the legend. Beaten on what is supposed to be its own ground, the public, greatly daring, is contesting the architect on his ground. The bulk of the criticism, therefore, is confined to external appearances. We feel sure the public would have loved to have the situation inverted. It is worth noting in

passing that prior to this competition we have come across in our reading only one essayist who drew attention to the unsatisfactory appearance of the theatre that was destroyed by fire.

Function and Appearance. As it has happened, it was perhaps a pity that Miss Scott, in an interview with the Press, allowed herself to be drawn into an announcement of her architectural theories upon structural and functional values and their relation to architectural appearances or their æsthetic values. Unfortunately the Press has seized upon these theories as if they were new, and has given an exaggerated emphasis to what is, after all, a doubtful philosophy of architecture. All that can be said here on this point is, that ripe wisdom and a wide range of experience in expressing the various needs of this life through the medium of architecture are the sole correctives to hard and fast theories upon architectural expression. There is some excuse for the public, therefore, if it has been led to believe that anatomical functions have been allowed to express themselves—that, and nothing more. To some extent this impression, no doubt, has been responsible for the number of comments that have been offered so freely.

The Eiffel Tower. THE rumour that Paris is to lose its greatest landmark has been contradicted. The Eiffel Tower, with its 984 feet, dominates Paris more confidently than St. Paul's commands London, and it is difficult to imagine Paris without it. When M. Alexandre Eiffel completed it in 1889 it was not expected that it would remain up for more than some twenty years, and it would indeed have caused astonishment to its creator could he have seen it thirty eight years later sending wireless messages across the world. Ever since the fiasco of the Tower of Babel huge towers have been talked of but left unexecuted. We remember the original Wembley "Folly," the cylindrical Wembley Tower proposed for the recent exhibition, the two Dublin towers proposed by the prizewinner of the Dublin Town Planning competition. M. Eiffel alone has succeeded in such an enterprise and the world has been the richer for his achievement.

An Ancient Industry. ACCORDING to the Rural Industries Bureau, in the village of Parson Drove, in the fen country, near Wisbech, a woad mill is still in seasonal operation, and its processes probably differ little from those in vogue in prehistoric times. Huge cumbrous wooden rollers drawn by horses are still used to crush the plants, and the dye extracted now has its uses in newer industries. In fact, we believe that for certain purposes its value still remains superior to all modern substitutes.

A New Spirit in Industry. THE profession and industry that we represent are vitally interested in the industrial conferences that seem to herald the dawn of a new era in industrial economics. We would like to see the whole problem treated by masters and men in a friendly spirit in the endeavour to get the utmost out of life for everybody concerned. There may be different opinions about the goal we should aim for and there may be, and no doubt there are, various interests that are conflicting. There may be only one real issue, in the sense that the greater includes the less.

Sub Judice. WHATEVER point of view we hold we think it is a pity that one-sided political opinion should be voiced in the Press while these discussions are being heard. Every paper believes that it holds the key to the solution of our industrial difficulties, and each one adds prejudice to a round-table conference. One newspaper has already rejected—on behalf of the nation, we suppose—the suggestion to increase the number of working hours from 48 to 52½ in a certain industry. The remedy is old fashioned, we are told, since the operatives are working less than 30 hours per week and would be only too thankful to be employed for the full 48 hours. Here at the very beginning is an attempt to cloud the issue by submitting both the question and the answer. "How is it possible to work more hours per week when already we have not enough work to keep us employed?" This is the well-known method of arguing from second causes, and it might with advantage be set aside during the close season.

Tyneside Survey. A VALUABLE survey of a group of towns on the Tyneside, including four county boroughs, two municipal boroughs and seven urban district councils, has just been completed. This was not a regional survey but was an effort to discover how the Tyneside, as it is in the years 1926-1928, has been shaped and how it appears to be shaping. Few strangers to the district who pass down the north bank from Newcastle to the sea, realise that they are passing through Gosforth, Wallsend, Tynemouth, Whitley Bay and Monkseaton; or, if they cross the ferry and return to Newcastle, that the one huge town through which they are passing, is, in fact, South Shields, Jarrow, Hepburn, Felling and Gateshead. One point of special interest to housing reformers and architects is raised in the report. It is stated that housing is one of the matters in which the Tyneside differs very much from most industrial areas in England and Wales, for there is an old and persistent tradition of small and congested homes. Two- and three-roomed houses akin to those in Scotland are the predominant types. The report states that fortunately the coming of the subsidy house, designed by architects, is creating a new and better tradition.

Three Old Tombstones, Knockholt.

GENERAL NEWS

Professional Announcements.

Mr. A. H. Barker, M.Inst.C.E., of 100, Victoria-street, has been appointed consulting engineer for the rebuilding scheme of the University of Leeds, for which Messrs. Lanchester, Lucas & Lodge are the architects.

Messrs. Swan & Norman, of 8, Clifford's Inn, E.C.4, have taken into partnership Mr. Felix Clay, M.A., F.R.I.B.A., late architect to the Board of Education. The practice will be carried on at the same address under the title of Swan, Norman & Clay.

We learn that the partnership as between Mr. Horace W. Langdon, chartered quantity surveyor, and Mr. J. Belmont Taylor has been dissolved. Mr. C. T. Every, P.A.S.I., continues in partnership with Mr. Langdon as chartered quantity surveyors, practising at their new address, 292, High Holborn, W.C.1.

An Architect's Estate.

Mr. Andrew Oliver, A.R.I.B.A. (69), of Queen's-gardens, Hyde Park, W., left £2,955.

Auctioneers' Armorial Bearings.

The council of the Auctioneers' and Estate Agents' Institute of the United Kingdom has been notified that its petition for a grant of armorial bearings has been acceded to. The motto on the coat of arms will be *Fidelitas—Securitas*.

The Institute of Arbitrators.

Lord Cecil of Chelwood was the chief guest at the annual dinner of the Institute of Arbitrators, Incorporated, held at the Criterion Restaurant. Mr. H. B. Chaplin Baldwin, the president, was in the chair. Lord Cecil proposed "The Institute of Arbitrators." Referring to international disputes, he said that arbitration was the only alternative that had ever been practically suggested. He did not doubt that if we were to throw our whole strength into the cause of arbitration and say we were ready to accept it for ourselves and press all other countries to accept it, that decision would have an immense effect on the policy of the nations of the world. The responsibility of this country was enormous. If it took a non-committal attitude it might put back the cause of arbitration for many years. But if we threw ourselves into the cause he had little doubt that within the next few years arbitration would have become the normal method of dealing with international disputes. Sir W. W. Mackenzie, replying to the toast of "Our Guests," proposed by Mr. W. Gilbee Scott, said that the industrial courts during the eight or nine years of their existence had issued 1,500 awards. There had been only two occasions on which the award had been questioned by the parties, and they were during the hectic years of 1919 and 1920.

Halifax Piece Hall.

Halifax Town Council recently discussed the future of the Piece Hall. The Markets Committee asked the council to express the opinion that the Piece Hall should cease to be used as a wholesale market and should be restored. The committee was authorised to consider the future of the hall and report to the council. Halifax Piece Hall, or Cloth Hall, is unique in this country. It is a huge, quadrangular building with three tiers of rooms on the lower side and two on the top. It owes its origin to the old clothiers, who purchased pieces of cloth from the handloom weavers. On market days weavers came from all over the West Riding and East Lancashire, and clothiers, who occupied the 315 rooms, there bargained for prices and resold to merchants. Halifax was at that time the leading woollen market of the country. The hall was completed and opened on January 2, 1779, on land given by a local man, John Caygill, who also gave 8,000 guineas to the building fund. Each manufacturer paid £28 4s. The total cost was £12,000. The architect was Thomas Bradley, a Halifax man.

Effigies in Westminster Abbey.

At a recent meeting of the Historical Association, Professor W. R. Lethaby, speaking of the picture of Westminster Abbey on the Bayeaux Tapestry (which was more properly embroidery), said that it was now coming to be agreed, both in France and England, that this precious embroidery was English work, undertaken not many years after the Conquest under the direction of Bishop Odo. It might have been done in London. He complained that some of the modern restorers of the Abbey destroyed something original and put up a whim of their own. It was wonderfully skilful, but an absolute forgery and pretence. By the same concerted study one could produce modern Egyptian architecture. From their extraordinary muddle-headedness certain British architects went on doing that sort of thing, and called it modern Gothic. There was much scope in the Abbey for a systematic study, too long neglected, of the portraiture of royal and other distinguished personages—paintings, carvings, death-masks, and some of the identical funeral effigies that were used as models for effigies on the permanent monuments.

OBITUARY

We regret to announce the death of Mr. R. Percy Sellon, of Albury Edge, Merstham, Surrey, who was well known and held many important positions in the electrical industry. For many years he was managing director of the Brush Electrical Company, of Loughborough, in its earlier days. Other appointments held were: directorship of the County of London Electric Supply Company, the Bournemouth and Poole Electricity Supply Co., and the Richmond Electric Light and Power Co., as well as of Johnson, Matthey and Co., Ltd. He was also a director of the Otis Elevator Co., Ltd.—the London branch of the Otis Elevator Company, of New York, which afterwards was amalgamated with R. Waygood and Co., Ltd., when he still retained a seat on the board of the company under its new name—Waygood-Otis, Ltd. His death will be deeply felt, for he was a man who endeared himself to all who knew him; his sage counsel on the boards of the various companies with which he was associated will be greatly missed.

COMPETITION NEWS

Northumberland Division War Memorial.

This competition for a design of a memorial for this Division, to be erected in Flanders, is strictly limited to architects who served overseas with any unit of the 50th (Northumbrian) Division during the war. The memorial is to take the form of a monument situate on slightly elevated ground at the east corner of the junction of Oxford-road and the Ypres-Passchendaele-road at Wieltje, where a site of two acres has been acquired. Premiums of £30, £20, and £10 are offered. The assessor is Colonel A. Easton, T.D., F.R.I.B.A. Details of conditions may be obtained from the Hon. Secretary, Lt.-Col. Wm. Anderson, Newmarket-street, Newcastle-on-Tyne, to whom drawings are to be delivered by January 31.

COMPETITIONS OPEN.

Extensions to the Town Hall and Municipal Buildings, Accrington. Mr. Herbert J. Rowse, A.R.I.B.A., assessor	Particulars published in "Builder," Sept. 16	Sending in date. —
Senior School, Birkdale, Southport. Professor S. D. Adshead, Assessor. Premiums of £100, £75 and £50. Apply to Director of Education, Municipal Buildings, Southport. Deposit of 10s. 6d. required.	Aug. 12 & Nov. 18	1928 Mar. 10
Municipal College of Technology, Manchester, extension. Messrs. Alan E. Munby, H. M. Fletcher and Francis Jones, assessors. Premiums of £500, £400 and £300. Apply Mr. P. M. Heath, Town Clerk. Deposit £1 1s. required	Nov. 4	Mar. 30

BOOK REVIEWS

The Gonzaga—Lords of Mantua. By SELWYN BRINTON, M.A., F.R.S.A. (Methuen & Co., Ltd.) 273 pp.; 40 illustrations. Demy 8vo. Cloth, 15s. net.

Those who have read the author's interesting study, "The Golden Age of the Medici," will welcome this scholarly history of Mantua as a valuable addition to Italian mediæval studies. Northern Italy, and particularly Venetia, with its Marquisates, Dukedoms and Republics, was from the thirteenth to the eighteenth centuries the cock-pit of Europe in the south, just as Flanders was in the north; and if, as the author says, our attention in this work will be mainly centred in the Lords of Mantua from Luigi, her first "People's Captain" (1328), to Ferdinando Carlo, her tenth and last Duke (1708), with the Marquises in between, there is more than enough over and above these personal histories to give us a vivid impression of those stirring centuries of European intrigue, battle, murder and sudden death—that ever-recurring struggle for supremacy between the Empire, France and the Papacy—that royal game of chess with the cities and provinces of Italy and the two Sicilies for pawns. The book has taken 20 years in the making; but the author is no mere book-maker; his writings are the result of much study. As far back as 1907 he contributed a study of Mantua, in German, to the series of "Famous Art Cities" (Leipsic), and it is no more than we should expect that, eventually, he would write us an English book on Mantua, her palaces, churches, art and her story, with the Gonzaga Dynasty as a background. And all these subjects are treated with considerable skill.

It is just three hundred years ago—December 18, 1627—that Vincenzo II, the seventh Duke and fifteenth ruler in the direct line from Luigi, closed his short and ill-spent life and his niece Maria was married in the small hours of the morning to her distant cousin Carlo, Prince of Nevers and Rethel; at the same moment the bridegroom's father seized the rule of Mantua as her eighth Duke. The one-year reign of Vincenzo II marks the blackest page in Mantua's history, when, as the author says, "the Mantuan Succession becomes at this point a kind of devil's dance in which all within the court of Mantua were involved"; and all the chancellories of the great powers and other opportunists eager for plunder were looking on at the dance. The concluding chapter gives an interesting account of the sack of Mantua, with its unspeakable horrors of rapine and plunder, and the Epilogue, the Fall of the Casa Gonzaga in 1708.

Mantua was the birthplace of Virgil. Dante, remembering the great Augustan poet's own line, "Mantua me genuit," claims him for his guide in the terrible journey to the infernal regions. For the Virgil association alone Mantua might rank amongst famous spots. Virgil was her tutelary god; but, like Florence, Milan and Venice, she has a great art history running through the centuries to the great Italian Renaissance. Andrea Mantegna was her greatest ornament in her full season before the fall; and after reading this book we shall look with added interest at the Mantegna cartoons in the Orangery at Hampton Court Palace. Modern Mantua, "a gleaming jewel in the crown of cities of ancient fame," is taking her place in the sun under the awakening spirit of Italian Unity; and it is amongst her not smallest consolations that she has recovered some of her lost art treasures from Austria.

Building Development at East Molesey.

Subject to the approval of the Ministry of Health, the Urban District Council of East and West Molesey, Surrey, propose to erect a further 70 houses, of parlour and non-parlour types. The Council's architect is Mr. T. Frank Hawkes, F.R.I.B.A., of Esher, Surrey.

THE REPAIR OF ANCIENT BUILDINGS—III

BY A. R. POWYS, A.R.I.B.A.

Temporary Supports.

WHEN a building is structurally unsound it may be necessary to support it with temporary props until such time as repairs may conveniently be done. It is the duty of an architect to advise on this and to design the form of support to be used. Two precautions only are given here as regards this matter. The first is a warning as to the foundations for these props. They must be sufficient to take any weight that may come on them. They are usually laid on or near the surface of the ground, and therefore must be given a widely spread base. The second is that it is advisable that provision be made to tighten up the support by wedges or otherwise.

Propping during Works.

It is necessary to make sure that no part of an ancient building is in danger of collapse during such structural repairs as necessitate the temporary removal of weight-bearing masses. It has become the custom to make the contractor responsible for the maintenance of the work during repair, but it is the duty of the architect to satisfy himself that the builder does provide efficiently against such risks, for in the case of an accident, *ancient* work can only be replaced by *new*, and the whole object of the work is to avoid this replacement. It is thus seen that more than financial loss is at stake.

When repair works are done by direct labour, the method always to be preferred, the architect in charge is more directly responsible for the temporary supports.

Different Kinds of Props.

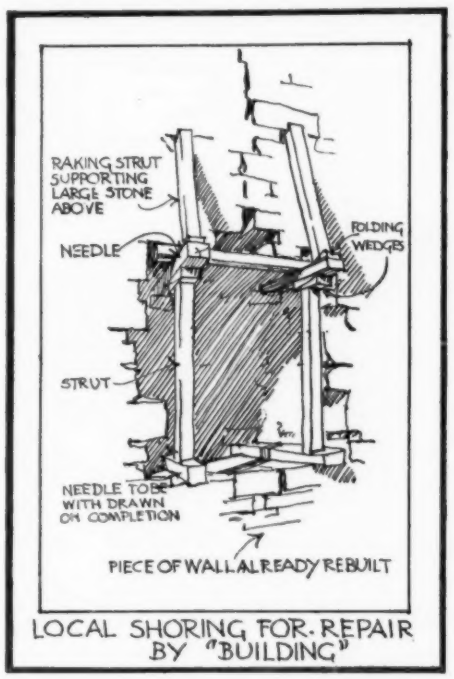
There are few operations in repair work which need so much experience, or which are so much governed by common sense, as the propping of old work during repairs. Except with regard to preliminary shores and the centering of arches, or with regard to those parts of a building where loads are concentrated, as, for instance, the piers under a tower, it is often surprising how slight the precautions may be. Round timber, such as the short lengths of scaffold poles, are most useful as struts, for in these there is no risk that they are weakened by the grain of the wood having been cut across. Two instances of temporary propping used by Mr. Wm. Weir in the repair of a very shaky tower are given here to illustrate methods that are employed and to suggest others.

The tower in question was built of a lime stone in the first quarter of the thirteenth century. The inner and outer faces would have stood well for a much longer time than they had done, had the filling or core been good. As a matter of fact, the latter was as poor as it could be. The mortar had little lime in it, and the stones were small and showed little signs of careful placing. The consequence was that the walls were bulged and fractured in very many places. The top stage of the tower was built more soundly in the fifteenth century, but its added weight had further weakened the lower walling.

Before beginning work, the whole of the lower faces of the tower between the buttresses was cased with inch boarding, set vertically. These were held in position by heavy horizontal timbers set at intervals of about five feet. Tie rods were inserted through the original putlog holes in the walls, and were passed right through the tower and the horizontal timbers, and the whole was tightly secured, by screwing up the rods, against any risk of patches of the wall face falling outward. The risk of falling inward was much less, and those places where any sign of failure appeared were secured during the work by straining-pieces across the tower. During the work the inch boarding was cut away in small pieces at a time, as it was necessary to get at the wall face.

The walls were repaired "*by building*"; that is to say, by removing the loose core and replacing it with sound stuff. The work was done from the inside face through openings made at intervals. The difficulty was to maintain the very loose core above while this work was in progress.

The following method, with variations, was adopted to provide the local support required when these openings were made, and while they were rebuilt. Two stout squared timbers were passed at one level through the wall as needles, projecting from the inner wall face some two or three feet, and being about three feet apart. At a suitable height above them, say, four or five feet, two other similar needles were put. Upright struts were set just outside the inner wall face from timber to timber and wedged tight. Lintel pieces were sometimes put from one to the other of the upper needles under the inner facing stonework. Raking struts were sometimes wedged from the projecting ends of the upper needles to prop chosen larger stones of the facing some 4 ft. or so above. Where the core was found to be dangerously loose, further needles were passed from the inner lintel to the outer facing, and in some cases the hollows above these were



LOCAL SHORING FOR REPAIR BY "BUILDING"

filled with cement bags stuffed with hay to check the run of the old loose mortar and sand of which the core was made. Thus secured from risk of a serious fall, each portion was opened and built up solidly, and the process was repeated as was convenient until the whole work was successfully accomplished. A variety of modifications, one of which is illustrated here, will suggest themselves to those confronted with similar problems.

One other word is necessary in connection with shoring. A careful watch must be kept of all "tell-tales," and the reading from the wall face to the plumb-lines should be checked and comparison made between them and the original figures noted on the survey Only in this way can it be known with certainty that the temporary supports are adequately doing their work. From time to time, also, the temporary supports themselves should be examined to see that they remain fit to take the loads they were designed to take.

Scaffolding.

The scaffolding for works of repair to ancient buildings should stand clear of the structure. It should have both inner and outer uprights, that is, it should be what is technically known as a "mason's scaffold." In such a scaffold the putlogs bear on inner and outer ledgers, and are not supported from the walling at one end. Such a scaffold is more expensive than a "bricklayer's" or attached scaffold, and therefore, in special cases, need not be insisted on. For instance, where old putlog holes exist they may be opened out and used again; where walls are of rubble and need complete repointing, the extra cost may be avoided. But for ashlar work, and in cases where a wall will be disfigured if putlog holes are cut, the attached scaffold must not be used. A scaffold for repair work may be made with higher lifts or stages than is customary for new work. This gives headroom on each stage, and also makes for economy.

Scaffolding may sometimes be avoided when the work is light, by using, instead, travelling cradles It should, however, be remembered, where the surface needs to be gone over many times before it is left, that the time spent in moving the cradles becomes excessive, and that scaffolding is more economical. A good deal of light work within reach of ladders may be conveniently done from "cripples" attached to them. For lower levels, a plank and trestle scaffold is very useful. A movable staging, sometimes made to expand, has been found convenient, particularly for use under cover.

Protection of Features from Damage during Work.

Precautions should be taken, before any work is done, to prevent accidental damage to the delicate features of an ancient building, and, in conjunction with these, steps must be taken to ensure that those parts of a building designed to be under cover shall not be exposed to weather.

In the first case, statuary, carved and moulded stone or woodwork, glazing, whether coloured or clear, wall paintings and plaster work, are among those objects particularly deserving protection. Cover boards, properly fixed, match-board screens, wooden cases and tarpaulin sheets are all useful in different circumstances with this in view. Roofs and pavements, above which work is in progress, should be similarly protected. A lead roof in the interest of economy alone, because it is peculiarly susceptible to damage, deserves such attention.

Ancient work has sometimes been permanently damaged by stains of grout, of oak tannin, and of rust. The first is due to carelessness, and should not occur; it can only be cured by immediate cleaning; the other two may be prevented by keeping the work in the dry. When part of a building only is under repair, it is advisable to screen it from the rest to prevent the transit of dirt and dust. A lining of paper on either a canvas or match-board screen is an efficient protection against dust.

It is important that the men employed be told that the object of the work is to preserve, and not to renew. In some cases they should be provided with felt- or rubber-soled boots. They must be cautioned against allowing fall-ropes to wear against beams or stonework.

Further, care should be taken to secure that no damage can be done by the movement or concentrated pressure of scaffolding, strutting, centering or shoring on or against ancient stonework. The pressure of such props should be transmitted over surfaces amply sufficient to receive it. Pads of felt, bags stuffed with hay, and tow-packing may be used to soften contact at these points. The ends of ladders should sometimes be provided with padded boards to increase the bearing.

Protection from Damage by Weather.

When a roof is to be stripped for repair, or when a large window is to be left without glass, it is most desirable that a temporary protection from weather be provided. In the case of roofs it is advisable that a temporary roof, some 5 ft. or so above the one to be repaired, be set up and covered with tarpaulins, corrugated iron, or other suitable material. In some small works it is sufficient to spread a tarpaulin on the roof that is undergoing repair whenever work is not in progress. But in each case there should be provision for the discharge of rain-water well beyond the walls of a building.

THE PRESERVATION OF ST. PAUL'S

SIR,—So "Inquisitive" has taken time to consider, which was just as well, but the pity is that he is wrong again!

Since he still owns to finding "difficulty of understanding" what I mean both in my book "The Preservation of St. Paul's Cathedral" and in my criticisms, he might have deliberated still longer with greater profit. There was no ambiguity in my terms. I stated in my book that a certain sectional diagram was taken on the "line of great pier," and he, stupidly ignoring the important fact that the great piers do not stand in lines radiating towards the centre of the building, misinterpreted it by comparing it with a section of his own taken on a radial line. He then proceeded to draw a series of pseudo-geometrical parodies based on his own absurd mistake.

Now, in spite of my having called attention to this false and ridiculous error, he has perpetrated another diagram containing a fundamental blunder of the same character. His ignorance of geometry is evident to all who are able to distinguish a semi-hyperbola from a straight line. In the diagram published in your issue of January 6 he definitely states that his section *B*, Fig. 3B, is taken on a line W2H2. If correctly drawn, such a section would give a very considerable increase in the projection of the pendentive and the inner drum, and profoundly modify the outline of the inner drum and of the portions of the domes and cone supported by it. Instead of taking the trouble to draw these matters correctly in relation to his section plane, he has taken the cheap and easy course of drawing the upper part of his diagram on a radial line of section and misplacing it nearer to the central axis of the building! This is a foul falsification of the facts which must have been deliberately adopted to support the statement of "Inquisitive" that the projections of the pendentive, the drum bearing the domes, and the whispering gallery are negligible, and to give fictitious emphasis to his claim that my diagram is incorrect.

He draws another diagram, "Section *A*, Fig. 1A," which he claims to have completed from my diagram, though readers of my book will see that he has falsified this also by turning its freehand outline to rigid "geometry." Actually the projection of the inner drum is, as stated in my book, "several feet," "Inquisitive" himself having given the dimension of 2 ft. 5 in. for this projection in one of his former letters, though he cannot bring himself to draw it correctly on his diagrams, which minimise the projection to suit his argument. His latest production, Section *B*, Fig. 3B, grossly understates the facts, since it ignores the increased projection on the tangential section plane as compared with the radial. "Inquisitive" points out that I have given no scale to the diagrams about which he has made so many ridiculous mis-statements. True enough, they have no scale. He has taken seriously my freehand sketches and has mis-applied to them a scale of his own devising. "Inquisitive" has been labouring to prove that Wren's drum is set back a couple of feet from the face of the great arch, but this was known and noted years ago. My rough sketches were made to call attention to a fact of far more sinister importance, which is, that the curve of the drum brings it out over the void at the critical points of bearing upon the pendentive, a fact that has a vital connection with the application of oblique thrusts throughout the building.

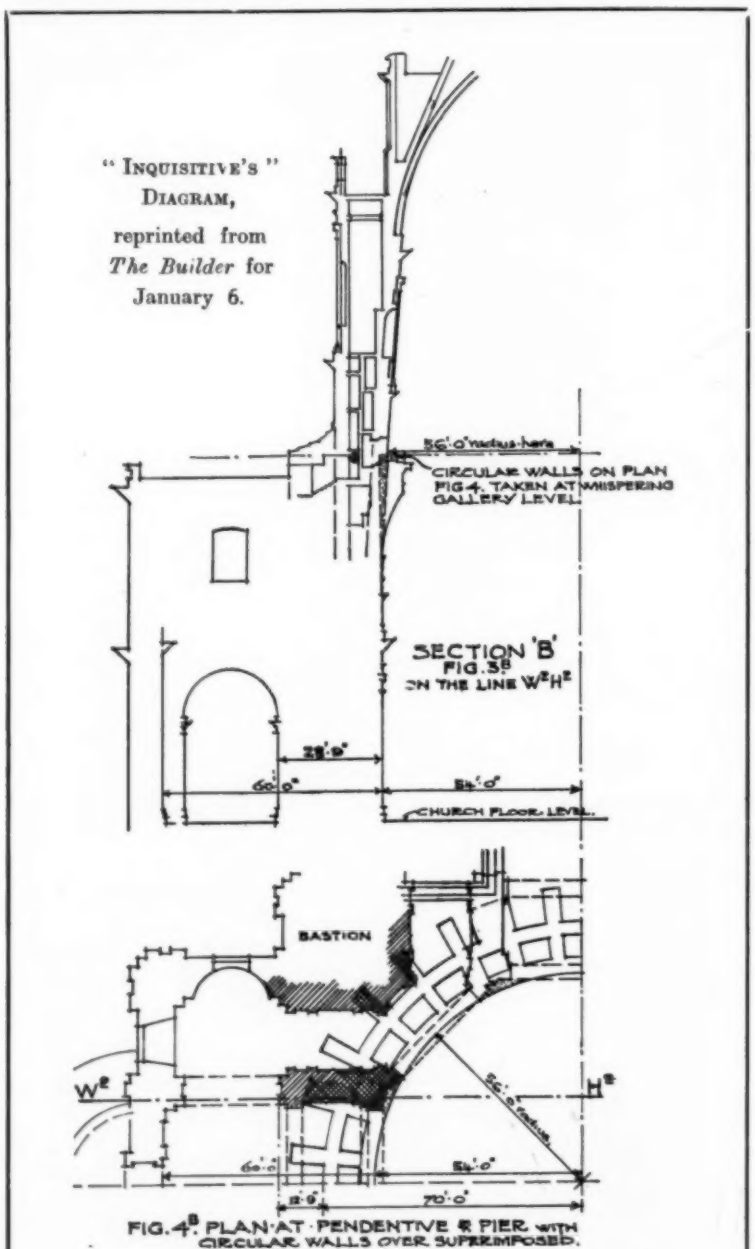
In connection with the main question of concentration of load, "Inquisitive" now admits that the load is only distributed over "practically one half of the front part of the piers," whereas in his former letter he claimed that it was spread over the whole top of the piers as shown by his cross-hatching. He then goes on to repeat the St. Paul's Commission's statement concerning the alleged "natural arch action" of the drums, ignoring, just as the Commission did, the fact that "natural" arch action has its own "natural" arch thrust in common with all other forms of arcuated structure. The natural arch action of the masonry is real enough, but it is a terrible mistake to look upon it as a "factor of safety." The ornamental arch ribs are obviously too small for the load, as Wren knew as well as anyone. He calculated upon natural arch action and exploited it to the full when the building was new. It was showing signs of failure in 1921. "Inquisitive's" claim that the drum walls act as "short girders" is, of course, ridiculous; their curved plan unfits them for the purpose even if they were supplied with tensile lower "flanges." It was to draw attention to the danger from unconsidered thrusts and movements in the Cathedral due to eccentric loading, arch pressures, and the pressures that would be generated by grouting, that I wrote in criticism of the St. Paul's Commission's original scheme.

To speak of the load upon a pier being "distributed" over only a part of its area is, in reality, a misuse of terms, but supposing that "Inquisitive" were right in his statement that the load is "distributed" over half the front part of the pier, even this arrangement would bring its centre of pressure far outside the middle third of the area, and would imply a severe concentrated eccentric load far in excess of "15 to 20 tons per square foot" on a particular corner, irrespective of arch thrusts whether from "natural" or "ornamental" arches.

In spite of his claim to be acquainted with these matters "Inquisitive" is still as ignorant and as unfamiliar with them as the St. Paul's Commission showed itself to be in its Second Interim Report, before outside criticism came to its aid.

But the load is not, and never has been, "distributed" in either the ordinary or the technical sense of the word. Sir Christopher Wren purposely concentrated it on the inner corner to minimise outward rocking of the piers under the oblique arch thrusts, and in so doing made the concentration of the vertical component approach danger point without entirely bringing the horizontal component within control of his buttressing masses, or the tensile strength of the material at his disposal. Since Wren's time, the splitting up of the building masses by fractures, and the progressive distortion of the masonry, have acutely aggravated both the effective concentration of loads and the damaging character of the arch thrusts.

It is, therefore, idle for "Inquisitive" to speculate upon the satisfactory state in which the building might have been found "if" Sir Christopher Wren had used Portland cement instead of lime, and "if" the "two great circular walls with their connecting cross-walls had remained connected together as a monolithic structure." Wren had no Portland cement to use in substitution for lime



"INQUISITIVE'S" DIAGRAM, reprinted from *The Builder* for January 6.

FIG. 4B. PLAN AT PENDENTIVE & PIER WITH CIRCULAR WALLS OVER SUPERIMPOSED.

and plaster of paris, and the building was already consistently fractured and no longer monolithic when I undertook my serious examination of it in 1921-1924.

As to Portland cement holding St. Paul's Cathedral together in any case, "Inquisitive" is wrong again when he states that "any competent architect or engineer of to-day could rebuild St. Paul's in strict accordance with Sir Christopher Wren's design, using the same material which Sir Christopher Wren used, with the assistance of Portland cement instead of lime mortar."

My own observation of masonry structures has shown conclusively that Portland cement is not dependable as a tensile connection where intense eccentric loads are involved, and the presence of continuous shrinkage and settlement cracks in cemented structures is a matter of common experience. But there is no need to generalise on this point, for the Cathedral itself affords an object-lesson on the tensile value of Portland cement, and of the practice of "competent" architects and engineers of to-day.

In December, 1924, the St. Paul's Commission, composed of modern architects and engineers of admitted eminence in their professions, published a report in which they proposed to apply Portland cement to Wren's piers. In January, 1925, I insisted, in public criticism of this proposal, that in view of the arch pressures, the eccentricity of loading, and of my discovery of continued systematic movement of the structure, metallic reinforcement would be needed in addition to Portland cement. In February, 1925, the "competent architects and engineers of to-day" published a further report in which they advocated the use of metallic reinforcement, notwithstanding the fact that the inclusion of a material suggested by outside criticism implied the admission of the insufficiency of their own former report. There is not the shadow of a doubt that it was sincere awakening to the limitations of Portland cement, and not a desire to flatter the critic, that brought about the change of programme.

In my criticisms of January, 1925, I also showed how the piers needed to be tied in to the corner bastions of the building with reinforcement specially calculated for the purpose, and the eminent architects and engineers of the Works Sub-Committee have recently reported that they have inserted, and are still inserting, rustless steel ties at the point indicated by me on my diagrams and inserted in my model illustrated in my book.

In this instance, the value of my analysis of the needs of the building was confirmed not only by the adoption of my suggestion by men of eminence at the present time, but also by the fact that Sir Christopher Wren had himself recognised the need of stitching the piers to the bastions with something more tenacious than Portland cement, for in the course of the recent operations his old and broken iron ties have come to light.

My investigation of the building prior to the publication of the Commission's Second Interim Report had not included the opening up of Wren's masonry at these points, and I was unaware that these hidden tie-bars were in existence, or that they were no longer intact. My insistence on the need of new tie-bars was the result of rational deduction from the facts of the shaping and loading of the building, including, of course, the recognition of its arch-thrusts. I had no means of knowing at the time that Wren had used iron to stitch the piers to the bastions, but I did know from my examination of minute cracks and bends in the masonry, that tensile connection was necessary, and that whatever tensile connections he had used were no longer completely effective, and that the grouting treatment first proposed by the Commission would be altogether inadequate.

In view of these instances, in which the custodians have found it necessary to adopt my suggestions, it is futile for "Inquisitive" to quote the Works Committee on the absence of significant cracks in the piers. If the cracks and cavities in the piers did not result from a concentration of pressure such as I described, how is it that I was able to predict the need of reinforcement between piers and bastions some three years before the Works Sub-Committee found it necessary to insert it in the course of the repairs? This incident of the discovery of Wren's iron ties, "mostly fractured," as the custodians admit in their Fifth progress report, is a fair indication of the certainty with which it is possible for a man experienced in the analysis of arch pressures to ascertain the actual needs of a building in advance of exploratory building operations undertaken for its repair. It is not an isolated case by any means, for I have made a practice of anticipating the positions of defects in ancient arched buildings in advance, from their general disposition of shape and weight, and have then examined their wall tops for bends and fractures and have found my diagnosis correct.

"Inquisitive" is dangerously at sea in his statement: "As a matter of fact, the dome and its supports, as designed by Sir Christopher Wren, are a self-supporting, independent structure, and it needs but little abutment from the surrounding building of the nave, choir and transepts." That this repetition of a hoary old error is of no practical value may be seen from the Commission's Final Report, as well as by those who read my book with some confidence in its author. A month after I had pointed out in my criticisms that arch-thrusts were gradually bursting the building by almost imperceptible degrees, the Commission also published a statement that its upper parts were being swelled under the influence of what they called "the cumulative effects of temperature changes," and while it is important that the real cause of the swelling should be recognised in the interaction of the shape and weight of the building, the swelling itself is recognised both by William Harvey the critic, and by the eminent men whose first ill-considered scheme he criticised.

I first advocated a great tension ring to confine the swelling of the drums of the dome, and the Commission in its Final Report, published a month later, expressed the intention of banding the drums of the dome for the same purpose. In criticising my proposals, "Inquisitive" falls foul of his friends the custodians, who are in process of learning how to understand them and put them into practice! He also shows himself three years behind the times, for no competent engineer of to-day, who has followed my writings on the continuous nature of decay in structures subjected to severe lateral stresses, would be so idiotic as to pin his faith to the tensile connection of Portland cement in connection with a complex and gigantic building like St. Paul's Cathedral.

"Inquisitive" returns to the attack upon my alleged disrespect for Sir Christopher Wren and his building, though, stupidly enough, he practically paraphrases the passage in my book in which I have praised Wren's masterly use of his cone of reinforced brickwork, giving out the news of its efficiency as his own discovery. With his characteristic inability to read, he ascribes to me an accusation that the state of imperfect repair in which the Cathedral is found is due to "Sir Christopher Wren's design," while he praises the Commission for attributing it to defective materials.

In estimating the needs of a decaying building it is necessary to consider the interplay of design and material, and, as I pointed out in my book, it is also necessary to understand the part played by time and weather in producing the progressive destructive movements by which great monuments are brought nearer to their final fall.

In pointing out that the most economic domed building has a definite shape in relation to its weight, and that St. Paul's Cathedral has not that shape, I implied no blame to its designer, who had, as I stated, to consider convenience and art as well as economic and enduring structure. Besides, it is hardly a compliment to an architect to assert that his building has defects "due to lack of adhesion bond and tie," as "Inquisitive" admits.

"Inquisitive" continues to class me with those who have advocated the pulling down of Wren's piers, but this is another of his deliberate mis-statements, for I advocated the retention of Wren's facing stones in position as far as is compatible with the introduction of a sound internal core of reinforced concrete. It must be remembered that the custodians' proposals contained no reference to reinforcement of any kind until after my criticisms were first published.

After assuring his readers that his "qualifications are quite immaterial," a statement which seems to be well borne out by the quality of his production, "Inquisitive" informs us: "To the best of my ability I have endeavoured both to draw out and to work out both schemes, and have made rough models, because it seems to me that the preservation work at St. Paul's Cathedral is one of the most important and extensive works of restoration which have been undertaken in this country for many years, and apart from the interest of St. Paul's Cathedral itself, the results of the work must prove of the greatest educational value to the architectural profession, and may well form a precedent for similar work in the future."

"Inquisitive" is coming on; the season of peace and good will has done him good, for he was inclined to despise the educative value of repair work just before Christmas!

It would be interesting to see his efforts in model making, though it is to be feared, from the small value of the ideas he has acquired from the exercise, that his skill in this respect is on a par with his geometry, which, by the way, has at least presented us with a new meaning to the old expression "geometrical truth."

WILLIAM HARVEY.

MEETINGS

FRIDAY, *January* 20.

Glasgow Architectural Craftsmen's Society. Mr. S. P. Smith on "Electricity and its Application on Building." 7.45 p.m.

MONDAY, *January* 23.

Royal Institute of British Architects. Address to Students and Presentation of Medals and Prizes by Mr. Walter Tapper, A.R.A. 8.30 p.m.

Institution of Welding Engineers. Mr. A. E. Plumstead on "Electric Welding Repairs to Inflated Gasholders." At Caxton Hall, S.W.1. 7.30 p.m.

TUESDAY, *January* 24.

National Federation of Building Trades Employers. Annual Dinner. Hotel Victoria. W.C.2. 7.15 p.m.

London Society. Visit to National Library for the Blind, Tufton-street, S.W.1. 3 p.m.

College of Estate Management. Mr. L. Thompson on "Town Planning." 5.30 p.m.

WEDNESDAY, *January* 25.

L.C.C. Central School of Arts and Crafts. Sir Banister Fletcher on "The Mediæval Period: Interiors, Exteriors, and Openings." 6 p.m.

Royal Institute of British Architects. Special General Meeting on R.I.B.A. Form of Building Contract. 6 p.m.

Royal Society of Arts. Mr. D. H. Wippell on "Enamels." 8 p.m.

Liverpool Architectural Society. Mr. L. H. Keay on "Some Aspects of Housing."

THURSDAY, *January* 26.

Society of Antiquaries. Dr. R. E. M. Wheeler on "Amphitheatre at Caerleon." 8.30 p.m.

Institution of Structural Engineers. Discussion on "Preparation Examinations," introduced by Mr. Ewart S. Andrews. 6.30 p.m.

FRIDAY, *January* 27.

Institution of Structural Engineers (Lancashire and Cheshire Branch). Annual Dinner. At the Manchester, Ltd., Royal Exchange, Manchester.

"THE BUILDER" DEBATE

Articled Pupilage versus School Training.

"Negative" writes as follows :—

SIR,—When a man argues with moderation he is the more difficult to refute, and this is the case with your correspondent Mr. "Positive." He has tabled a motion which, in its necessarily brief form, is definite enough, but which does not perhaps fully express the argument, for in his letter of explanation he shows himself to be more open-minded than the terms of the motion would imply.

The fact is that these terms are too categorical, and in view of this it is a pity that in the opening paragraph of his otherwise fair-minded letter, "Positive" dismisses at once, as unworthy of consideration, any general attitude of compromise. For the truth is that compromise is often another word for the moderate or middle course, and it is often the middle course which provides the best solution of the problem.

I would table an amendment to the resolution, phrased in some such terms as these :—"That under present conditions in the architectural profession the full course of instruction in a school of architecture provides a better training than does the system of articled pupilage; but such training can only realise its full value if judiciously combined with periods of practical experience."

There is so much truth in "Positive's" exposition of the value of contact with actual building and the routine of the daily business of the office that discussion on this point would be futile. But on the other side, he no doubt underestimates the value of the schools. Neither pupilage nor schools alone provide the real solution, for the ideal architectural training combines the advantages of both.

"Positive" has had a three years' academic course. And let me say at once that this is not enough. A full course is of five years duration, and if "Positive" has left his school at the intermediate stage he has missed the cream of the school training. The first three years provide for a grounding in fundamentals, and for an awakening of imagination, a faculty which develops enormously under the stimulus of the school system. But it is in the last two years that the training bears its fruit. So the experience of "Positive" is incomplete, and his judgment on the schools is based on the impressions of immaturity; for as no job of building can be appraised in a state of incompletion, so also is it with the work of teaching. It is the finished student which provides the true test of the school system.

This is perhaps a minor point; the more vital question is this — to use "Positive's" own words—"which is to be considered the essential part of his training, without which it must remain inferior?" The answer is simple. Once embarked on the career of pupilage alone, the pupil eventually emerges into the status of the practitioner; he has missed the academic training, but in a few years he has acquired experience and knowledge of another kind. But the student of the schools in a few years after graduation also has this knowledge and experience, and in addition the theory and technique which no office or offices can ever give. Which of these students in ten years' time is going to be the better man?

Which of these students will have the trained mind to grasp not only the details of a workman's cottage but the conception of civic plan? Which man will have the broader outlook, which will more quickly reach a solution of a problem, which will be the better skilled to cope with the ever-developing function of the architect to organise on a big and comprehensive scale? Surely there can be but one right answer. Practical experience is only one asset of equipment: the scientifically trained mind is another. The architect, like the doctor, the lawyer, the scientist, needs both, for his work is compounded not only of practice but of theory.

Comparisons are frequently made between the value, as an assistant, of the student who has completed a three- or five-years' course and that of the articled pupil of a similar length of training. At this stage there can be no disputing the fact that for ordinary office routine the articled pupil will be the more useful man. The average architect requires a useful and practically minded draughtsman with a knowledge of construction, by-laws, and office practice generally, and while the articled pupil has been acquiring this for the past five years, the school-trained man has only managed to put in, during his school course, periods of office training totalling perhaps a year. Of course, even at this stage, the school-trained man is recognisedly superior for competition or "fancy" work generally, but for the sake of argument we will not consider this as of direct value in an average practice.

At the end of a further three years, however, the school-trained student has acquired the knowledge of routine work, and he acquires in three years almost as much knowledge of this subject as his articled rival has gained in five. This because he has been trained to use his mind intelligently, and has learned to distinguish the essential from the non-essential. During this period the articled pupil has, of course, advanced in experience, but after a certain period experience and skill do not increase in ratio with time, and the man of 15 years' experience is rarely three times as valuable as the man with only five years to his credit.

At the end of a further period of three years the school student has acquired a very fair knowledge of practice; he is probably very nearly level in everyday usefulness with his pupil colleague, and in addition he has probably been successful in schemes of his own, in "washing" or in competition work, or has put his training in architectural design to some other practical use for himself or his employers. At the end of a further period he is probably commencing practice on his own account. And a little later he will very probably be employing the articled pupil as his head assistant!

No, the haphazard system of pupilage, the instruction of the pupil by one harassed and busy man, who often has the ability to create but not to teach, can never form the architect in the full sense. The system may suit the isolated individual, it can never be applied with general success under modern conditions. After all, the architectural school is specialising in its particular job. Can "Positive" really suggest that the average practitioner of ordinary talent has not only the qualities of a good architect but also those specialised talents of a successful teacher?

One result of the school system can be already seen, namely, that it is extremely difficult to find a really badly designed building erected by a fully school-trained man in the last ten years. But the pages of the less discriminating technical papers abound in examples of work executed by "practical men" whose lamentable failures can only be attributable to one main cause, namely, a lack of proper early training.

To turn to constructive criticism, it is indispensable that the school student should spend, during his school course, as much time in offices and in measuring, sketching, and travelling as his circumstances will allow. The R.I.B.A. demands, though "Positive" does not appear to know it, that the student of a recognised five-years' course must have spent at least twelve months in practical work before being admitted to the Associateship, and most students have done more than this. Even this minimum is, however, a safeguard, and so the "dangerous policy, unfair to the public," which "Positive" attributes to the Institute, has very little basis in fact. The danger to the public lies in other directions—in the coarse and inefficient design and planning of buildings by untrained men, most of them men who have served their articles. It is not too much to say that it is this lack of training which in the past has lost the profession so much of its prestige.

The system of the office and evening school can never be a real success. The stress of work nowadays makes it practically impossible, for reasons of health alone, for the articled pupil to carry out his office work conscientiously and at the same time spend his evenings in the necessarily exhausting work of the atelier. It would be indeed, as "Positive" says, a "hard grind for the student." More than that, it is a system which has been tried, and which does not really work. Very few students nowadays who could afford the day school would choose the combined office and evening study system.

"Positive" is incorrect in attributing the influx into the profession to the growth of the full-time schools. He should study in this connection the report published by the R.I.B.A. in 1925, which showed that the schools supplied only a small parcentage of the yearly entries (less than one-third). It is, of course, a pity, but it is a fact. Unfortunately, many people share in "Positive's" error, and wrongly blame the schools for causing overcrowding.

The discussion which *The Builder* is sponsoring is an interesting one, and "Positive" has opened it ably. But, as one who is defending a system which in nearly every country in the world is more and more coming to be considered obsolete, he really ought, in the place of the writer, to sign himself as

"NEGATIVE."

EXHIBITION NOTES

THE BEAUX ARTS GALLERY.

AMONGST the gallery paintings at the Beaux Arts Gallery are some of fine quality. The landscape, "Breezy Upland," by J. Buxton Knight, is a charming picture in low tones of colour treated with real dignity and breadth. There are too few modern pictures which come up to this standard. Another admirable small picture is Harry Muhrman's "Clouds at Highgate." Another subject, "Calm," is treated with refinement and skill in colour value and composition by H. Van der Weyden: an admirable picture. The "Cyclones," by Jules Sissone, is a beautifully treated study of these delicate flowers gleaming out of a rich dark background in a copper vase. Harry Morley's "Vanity" is a large picture, painted with great ability, but would have gained in effect by suppression of some of the accessory figures. The Russian pictures are very interesting and have brilliant colour effects, which are very stimulating. The five animal pictures by C. Visotsky are well composed and admirably painted, with excellent colour effect, and afford vivid pictures of woodland life. The picture of children in a sleigh going to school, by N. Boodanov-Bielsky, is a powerful piece of painting and gives a telling effect of bright colour against the snowy scenery. Nos 32 and 34, by S. Vinogradov, have a vividity and truth which are rare in English pictures. There are a number of other sketches and water-colours, which, with those above named, make an exceptionally interesting exhibition, which also includes a number of very good modern statuettes, chiefly of animal life.

THE WALKER GALLERIES.

An exceptionally good exhibition of animal paintings and drawings is on view at the Walker Galleries, Bond-street, by Nina Scott Langley. Some of the pictures have a good decorative quality, such as Nos. 17, 33, 41, 48, and 55. The characteristics of the animals are well illustrated, and some of the slighter sketches have much charm.

CORRESPONDENCE

[While we are glad to publish letters on professional and other matters of interest to our readers, it must be understood that we do not necessarily endorse the remarks of correspondents, who will oblige us if they will express their views as briefly as possible.]

The Repair of Ancient Buildings.

SIR,—All lovers of ancient buildings will welcome with interest and pleasure the series of articles begun in your issue of January 6 on this most important subject by Mr. A. R. Powys. His position as secretary to the Society for the Protection of Ancient Buildings gives him access to a wealth of material which must make these articles of immense value. Anyone who has followed the work of this Society must admit the soundness and scholarship of its methods, and any account or description of the work done under the direction of Mr. William Weir in recent years must contain much useful information.

This Society, together with the Ancient Monuments Department of H.M.O.W., has lifted the work of restoration out of the haphazard, unscholarly state in which it remained until well into the Victorian era and set it on a footing which must commend it to all intelligent lovers of our priceless antiquities.

While admitting the excellence of the work of these two bodies, it is to be regretted that an impression is abroad that they are the only qualified persons to deal with such work. Many of our younger architects have studied, deeply and exhaustively, ancient buildings and their preservation, and there is no necessity to make a mystery of such problems and their solution. Intelligent study and common sense are the main factors in this as other matters, together with an intense love and reverence for all beautiful old things.

True, with such things as old mural painting and stained glass, special antiquarian knowledge and artistic qualifications are no doubt necessary, but even these need present no insurmountable difficulties to the man who is not in the profession for commercial considerations. In his first article Mr. Powys says, speaking of the choice of an architect: "He should be chosen for one reason alone, namely, that he has shown by actual work that he can repair an old building without doing it harm or causing it to lose its value."

Public departments are encroaching more and more into the domain of the private architect, and it is to be regretted that any statement should be made that would indicate that independent study and research should not be able to achieve as fine results as subsidised departments, whose success very often depends on access to a larger bank account with which to carry out the work.

Mr. Powys might explain how an architect is ever to commence practising this class of work if he is never to be appointed until he "has shown by actual work" that he can do it (A somewhat Chestertonian problem.)

We are in danger of talking much humbug in discussing so-called specialist problems. The greatest exponents of anything had to make a beginning, and love and common sense may solve any problem, given intelligence and education. We look forward with deep interest to Mr. Powys's articles, which must give us much new and sound data.

Mr. Powys's second article deals with the preliminary work to be undertaken prior to commencing operations. The methods he suggests are ideal and are such as every practitioner who loves such work would naturally follow, but those of us who have tried it know that elaborate written, drawn and photographic surveys cannot be left in the hands of pupils and junior draughtsmen, and such methods must restrict an architect's output very materially.

It is certain that the present restorations of ecclesiastical buildings in Scotland, which are being carried out in view of the approaching Church Union, are not being carried out by such methods.

Mr. William Harvey's discovery of "drift" in buildings is most important, and in a somewhat similar connection we should like to know of the Society's experience in relation to movements in buildings near the bank of a river subject to great variations in the level of the river.

In one case, known to the writer, of an abbey in such a situation the cracks are stated to open and close at low water and when the river is in flood. The writer's attention was drawn to this particular case by Mr. J. S. Richardson, of H.M.O.W.

The lack of sound and adequate foundations seems to be one of the main causes for failure and decay in most old buildings. Mr. Powys will no doubt deal with this in a later article. These remarks are suggested by your desire, Sir, that comments might be made on this excellent series of articles.

WILLIAM DAVIDSON.

Architects and Decorators.

SIR,—The discussion on "Are the Existing Relations between Architects and Decorators Satisfactory?" at the Painters' Hall on January 5 was notable for plain speaking on both sides. Such plain speaking may widen the breach unless both parties are prepared to admit their errors. Mr. Guy Dawber's speech made it clear that the architect did formerly and should control this important department of the artistic side of architecture, but what proportion of practising architects are qualified to do so? Very few, I fear. Mr. T. P. Bennett made it clear that the architect cannot legally claim a fee for work wholly done by a decorator. The wasteful system of asking half a dozen decorators to prepare drawings and supply estimates cannot be too strongly condemned. Such a system must add greatly to the cost of such work generally.

Mr. F. Dakin's remarks were justified, but he must remember that an architect may also deplore these conditions which he objects to without being able to rectify them. It is certainly a matter for astonishment that some of our best-known firms of decorators are still repeating schemes of decoration which were used by their fathers, and even grandfathers.

The success of ancient and mediæval decoration was largely, if not entirely, due to that harmony between the style, scale and detail of the architecture and decoration. Many decorators are so ignorant of styles that it is no uncommon thing to see a Renaissance scheme of decoration in a Gothic church, and *vice versa*. Mr. A. J. Davis put it in a sentence when he stated that the public required education on this subject. The public, and the clergy in particular, seem to think that the preparation of drawings costs nothing, and it would be a wise step if it could be made a principle that no drawings should be supplied without a fee.

The working drawings for a decorator need not be elaborate, and the present writer has found that with a few clearly-drawn scale drawings and details, a village house painter may produce most satisfactory results. Copies of dead styles and modern schemes by decorators are almost without exception a failure, for the simple reason that few decorators realise the harmony necessary between the style of architecture and the decoration. One has only to study Egyptian, Greek, Byzantyne, Gothic and Renaissance decoration to see how true this is.

It is not easy to suggest a solution, but one thing is certain, viz., that no one can successfully decorate a building who does not understand the principles of architecture.

Architects as a whole cannot boast of their knowledge of colour, and the result of the Owen Jones Studentship this year does not seem to indicate that it has any great attraction for them (four entries and no award!)

The collaboration of practical and artistic architects seems to suggest one form of solution, but such collaborations are admittedly difficult. The discussion at the Painters' Hall was of great value on account of the clearness with which the difficulties were stated, but the ideal seems quite unattainable until all the arts and crafts achieve some uniformity of tradition which will ultimately embrace and suppress excessive individualism.

ANGLIA.

On the Gentle Art of Advertising.

SIR,—What idea concerning the interior of an architect's office has the average supplier of the multifarious items that make up the modern buildings? I am led to this philosophic incursion by contemplation of a huge pile of printed matter which still survives destruction and which has come from all sorts of business firms with very kind and cordial greetings and benevolent wishes for prosperity in 1928.

Calendars, calendars, calendars, of all sorts, shapes, and sizes, and in varying grades, not of excellence, but of rottenness. Tear-off calendars, book calendars, sheet calendars, stand-up calendars, and block calendars, some of them atrociously printed and villainously designed, have been lumbering the post box and disfiguring the office for weeks past. Out of them two or three are useable; one is good. Two neat block calendars are used on walls in various rooms, one stands on my desk, and on the wall in front of my eyes hangs the only real specimen of taste and good printing. The whole thing is only 13½ in. by 4 in., with a weekly tear-off slip, 8 in. by 3 in. But the others! Can the responsible heads of the eminent firms whose names they bear ever see the things which they send us? Here is one bearing a name familiar as household words. It is a sheet calendar, badly printed; each sheet contains a weak half-tone illustration of some work the firm has done, and the over-all dimensions are 24 in. by 18 in. What architect wants these things, and who has room for their display? Flimsy, tawdry, and vulgar, the great bulk of this output must never see the light of day after the first opening. Certainly the printer is reaping a harvest, but a waste of good material is here represented.

Of course we cannot complain that firms wish to keep their names and their wares before the eyes of those who decide their use, but can they not use some discrimination? This method of advertising certainly does them no good, and it may be irritating. A neat calendar may be used, or may be given to somebody in need of such a thing, and the cost would be much less than these abortions. But, after all, there is nothing to beat the legitimate method of making your claims known through the best trade journal. The advertisement is always there, and long after the calendar has been destroyed the back numbers of *The Builder* are being turned over to find the best firm for this, that, and the other.

Other gadgets there are which excite admiration, and some are distinctly useful. Of these nobody will complain, and the advertisement is good, but please, dear Mr. Manufacturer, remember we are but human; remember, also, that as a breed we are supposed to have some sort of taste.

RALPH BROWN.

Mersey Tunnel Bill.

A town meeting at Liverpool on January 5 unanimously approved the new Mersey Tunnel Bill promoted by the City Council to provide for alteration in the tunnel scheme by substituting new entrances at Old Haymarket, Liverpool, and Market-place, South Birkenhead. Sir Archibald Salvidge, chairman of the Mersey Tunnel Joint Committee, said that new entrances could be constructed without adding one penny more to the rates of either Liverpool or Birkenhead over and above the cost originally authorised. The engineer's estimate of expense for these new proposals was:—Purchase of land, £143,646; purchase of easements, £80,500; construction of works, £870,902.

ILLUSTRATIONS

Peabody Estate, Fulham Palace-road, Hammersmith.

The Hammersmith Estate is the most recent one of the Peabody Donation Fund and covers about six acres of ground in the Fulham Palace-road close to Hammersmith Broadway Station. The estate was opened recently by H.E. the American Ambassador, and comprises 284 self-contained tenements, consisting of 14 one-room tenements, 34 two-room tenements, 164 three-room tenements, and 72 four-room tenements. In addition there are 33 cottages on the estate. Each cottage has a parlour, kitchen, scullery, three bedrooms, bathroom and w.c. The tenement dwellings each have their own scullery and w.c., with tile dadoes 5 ft. high.

There has been provided on the estate a communal laundry and bath house for the use of the tenants with ample supply of hot water.

The lay-out of the estate has been arranged with a large central square, 276 ft. by 100 ft., in the centre of which is a sunk garden with shelter and clock turret. A Georgian character has been given to the elevations, which are carried out in purple facing bricks with red brick quoins, gauged arches and artificial stone for the doorways and cornices.

The buildings were designed by Mr. Victor Wilkins, F.R.I.B.A., of 12, York-buildings, Adelphi, W.C.2; Mr. H. M. Messenger and Mr. H. W. Woodcock were the quantity surveyors.

Messrs. Walter Lawrence & Son, Ltd., Finsbury, E.C., were the general contractors, and the following sub-contractors were engaged on the work:—The Fawcett Construction Co., Ltd., fireproof floors; A. C. W. Hobman & Co., Ltd., artificial stonework; T. Faldo & Co, Ltd., asphalt work; Wiggins & Co., roof tiling; the Grano Metallic Paving and Plastering Co., Ltd., plaster work; Edward Evans & Son, composition flooring; Clark, Hunt & Co., Ltd., boundary railings and gates; F. W. Potter & Co., children's playground enclosure; George Wright (London), Ltd., ranges and mantel registers; Wontner Smith, Gray & Co., Ltd., steam laundry and drying horses; H. Pontifex & Sons, Ltd., sanitary goods; H. Windsor & Co., Ltd., wall tiling and glazed-brick partitions; James Carter & Co., garden work.

The National Provincial Bank, Edgware.

This bank has been designed in the Georgian manner to accord with its eighteenth-century environment, and is an admirable example of bank design on traditional lines. Mr. F. C. R. Palmer, F.R.I.B.A., F.S.I., and Mr. W. F. C. Holden, F.R.I.B.A., are Architect and Assistant Architect to the Bank respectively.

Messrs. C. F. Troy & Co, Ltd., were the general contractors, and the following were sub-contractors:—Limmer and Trinidad Lake Asphalt Co., Ltd., asphalting; British Reinforced Concrete Engineering Co., Ltd., reinforced concrete; Bath and Portland Stone Firms, Ltd., stone; Empire Stone Co., Ltd., stone staircase; Brooks, Ltd., York stone; G. & A. Brown, stone carving and fibrous plaster; Martin van Straaten, tile paving; Corkoid and Ruboleum, cork paving; Edward Dean & Beal, heating engineering; George Wragge, Ltd., ironmongery; Paripan, Ltd., enamel; George Johnson, Ltd., book lift; Milner's Safe Co., Ltd., strong-room fittings; J. R. Pearson, Ltd., bronze letters; Anselm Odling & Co., marble.

Lloyds Bank, Hereford.

These new premises, which have been recently completed for Lloyds Bank, Ltd., in the High Town, Hereford, provide an excellent example of modern bank architecture. The architects are Messrs. Waller & Son, of Gloucester, and the builders Messrs. William Bowers & Co., of Hereford.

(*Continued on p.* 146.)

OUT OF THE WESSEX NOVELS

A few sketches from the pages of the Wessex novels, dear in particular to all architects, and the more so now that the pen has dropped from the fingers that alone could draw them.

OXFORD BY NIGHT. Jude the Obscure, strange complex of bookish dreams and horny-handed craft, enters Oxford for the first time after dark, and is bewitched.

"After many turnings he came up to the first ancient mediaeval pile that he had encountered. It was a college as he could see by the gateway. He entered it, walked round, and penetrated to dark corners which no lamplight reached. Close to this college was another; and a little further on another; and then he began to be encircled as it were with the breath and sentiment of the venerable city. When he passed objects out of harmony with its general expression he allowed his eyes to slip over them as if he did not see them. . . . When the gates were shut, and he could no longer get into the quadrangles, he rambled under the walls and doorways, feeling with his fingers the contours of their mouldings and carving. The minutes passed, fewer and fewer people were visible, and still he serpentined among the shadows, for had he not imagined these scenes through ten bygone years, and what mattered a night's rest for once? High against the black sky the flash of a lamp would show crocketed pinnacles and indented battlements. Down obscure alleys, apparently never trodden now by the foot of man, and whose very existence seemed to be forgotten, there would jut into the path porticoes, oriels, doorways of enriched and florid middle-age design, their extinct air being accentuated by the rottenness of the stones. . . . On account of these things he could not go in. There were poets abroad. . . ."

OXFORD BY DAY. Daylight brings a partial disillusionment.

"Passing out into the streets on this errand he found that the colleges had treacherously changed their sympathetic countenance: some were stern; some had put on a look of family vaults above ground; something barbaric loomed in the masonries of all. The spirits of the great men had disappeared.

"The numberless architectural pages around him he read, naturally, less as an artist-critic of their forms than as an artisan and comrade of the dead handicraftsmen whose muscles had actually executed those forms. He examined the mouldings, stroked them as one who knew their beginnings, said they were difficult or easy in the working, had taken little or much time, were trying to the arm, or convenient to the tool.

"What at night had been perfect and ideal was by day the more or less defective real. Cruelties, insults, had, he perceived, been inflicted on the aged erections. The condition of several moved him as he would have been moved by maimed, sentient beings. They were wounded, broken, sloughing off their outer shape in the deadly struggle against years, weather, and man."

AN EXTERIOR AND AN INTERIOR. A lesson to the draughtsman who would make every line tell. From "Far from the Madding Crowd."

"Warren's Malthouse was enclosed by an old wall inwrapped with ivy, and though not much of the exterior was visible at this hour, the character and purposes of the building were clearly enough shown by its outline upon the sky. From the walls an overhanging thatched roof sloped up to a point in the centre, upon which rose a small wooden lantern, fitted with louvre-boards on all the four sides, and from these openings a mist was dimly perceived to be escaping into the night air. There was no window in front, but a square hole in the door was glazed with a single pane, through which red, comfortable rays now stretched out upon the ivied wall in front. Voices were to be heard inside.

"Oak's hand skimmed the surface of the door with fingers extended to an Elymas-the-Sorcerer pattern, till he found a leather strap, which he pulled. This lifted a wooden latch, and the door swung open.

"The room inside was lighted only by the ruddy glow from the kiln mouth, which shone over the floor with the streaming horizontality of the setting sun, and threw upwards the shadows of all facial irregularities in those assembled around. The stone-flag floor was worn into a path from the doorway to the kiln, and into undulations everywhere. A curved settle of unplaned oak stretched along one side, and in a remote corner was a small bed and bedstead, the owner and frequent occupier of which was the maltster."

A COMPETITION SCHEME. A rival obtains illicit access to the scheme which George Somerset has prepared for alterations to Stancy Castle, Miss Power, the wealthy owner, having initiated a limited competition for the purpose.

"The design shone into Havill's head like a light into a dark place. It was original; it was fascinating. Its orignality lay partly in the circumstance that Somerset had not attempted to adapt an old building to the wants of a new civilisation. He had placed his new erection beside it as a slightly attached structure, harmonising with the old; heightening and beautifying, rather than subduing it. His work formed a palace, with a ruinous castle annexed as a curiosity. To Havill the conception had more charm than it could have to the most appreciative outsider; for when a mediocre and jealous mind that has been cudgelling itself over a problem capable of many solutions, lights on the solution of a rival, all possibilities in that kind seem to merge in the one beheld.

"Dare was struck by the arrested expression of the architect's face. 'Is it rather good?' he asked.

"'Yes, rather,' said Havill, subduing himself.

"'More than rather?'

"'Yes, the clever devil!' exclaimed Havill, unable to depreciate longer." (A Laodicean.)

A MOONLIGHT SKETCH. Diggory Venn, the Reddleman, sees the figure of Eustacia. (The Return of the Native.)

"There the form stood, motionless as the hill beneath. Above the plain rose the hill, above the hill rose the barrow, and above the barrow rose the figure. Above the figure was nothing that could be mapped elsewhere than on a celestial globe.

"Such a perfect, delicate, and necessary finish did the figure give to the dark pile of hills that it seemed to be the only obvious justification of their outline. Without it, there was the dome without the lantern; with it the architectural demands of the mass were satisfied. The scene was strangely homogeneous. The vale, the upland, the barrow, and the figure above it amounted only to unity. Looking at this or that member of the group was not observing a complete thing, but a fraction of a thing.

"The form was so much like an organic part of the entire motionless structure that to see it move would have impressed the mind as a strange phenomenon. Immobility being the chief characteristic of that whole which the person formed portion of, the discontinuance of immobility in any quarter suggested confusion.

"Yet that is what happened."

Such a passage as this last may be a fitting climax of what is after all only a peep into a jewel-case; for it is just such touches that make us feel, more than all the personal incidents concerning architects with which these novels abound, that when Thomas Hardy turned to letters he never forsook the great art which first called forth his talents.

After all, only a body has passed.

G. M. A.

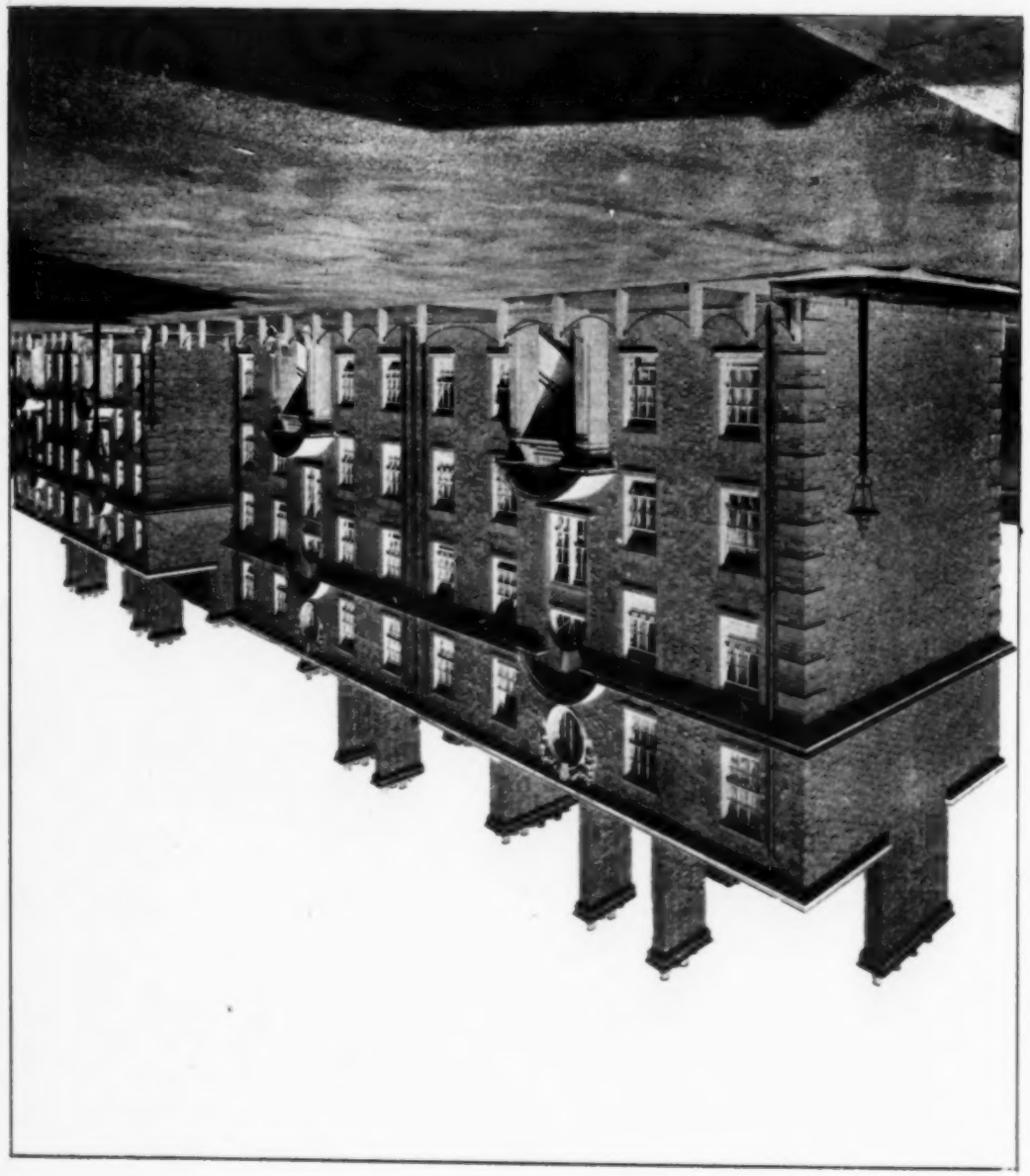
UNIV. OF MICH.

The National Provincial Bank, Edgware.

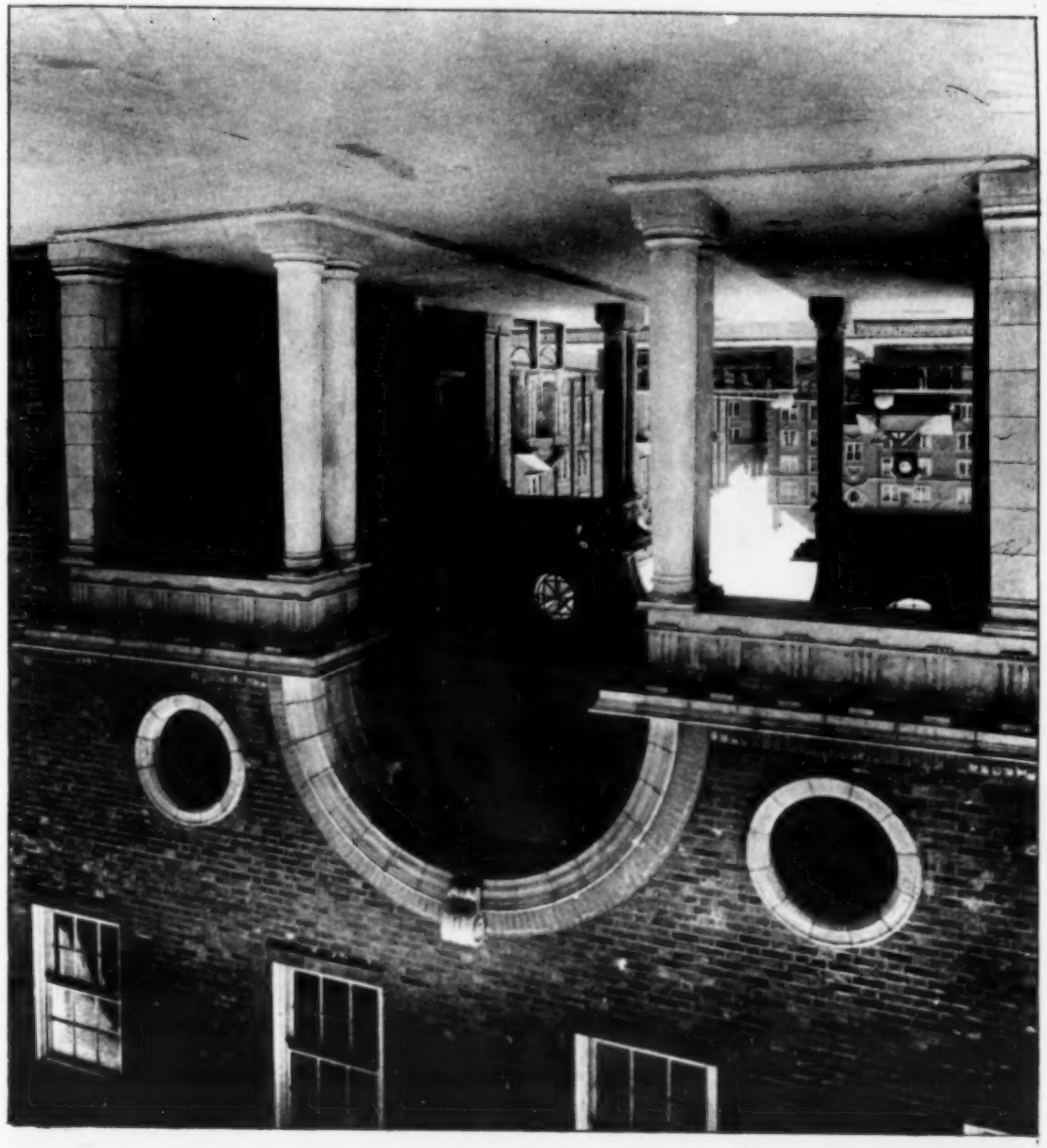
MR. F. C. R. PALMER, F.R.I.B.A., F.S.I., and MR. W. F. C. HOLDEN, F.R.I.B.A., Architect and Assistant Architect to the Bank respectively.

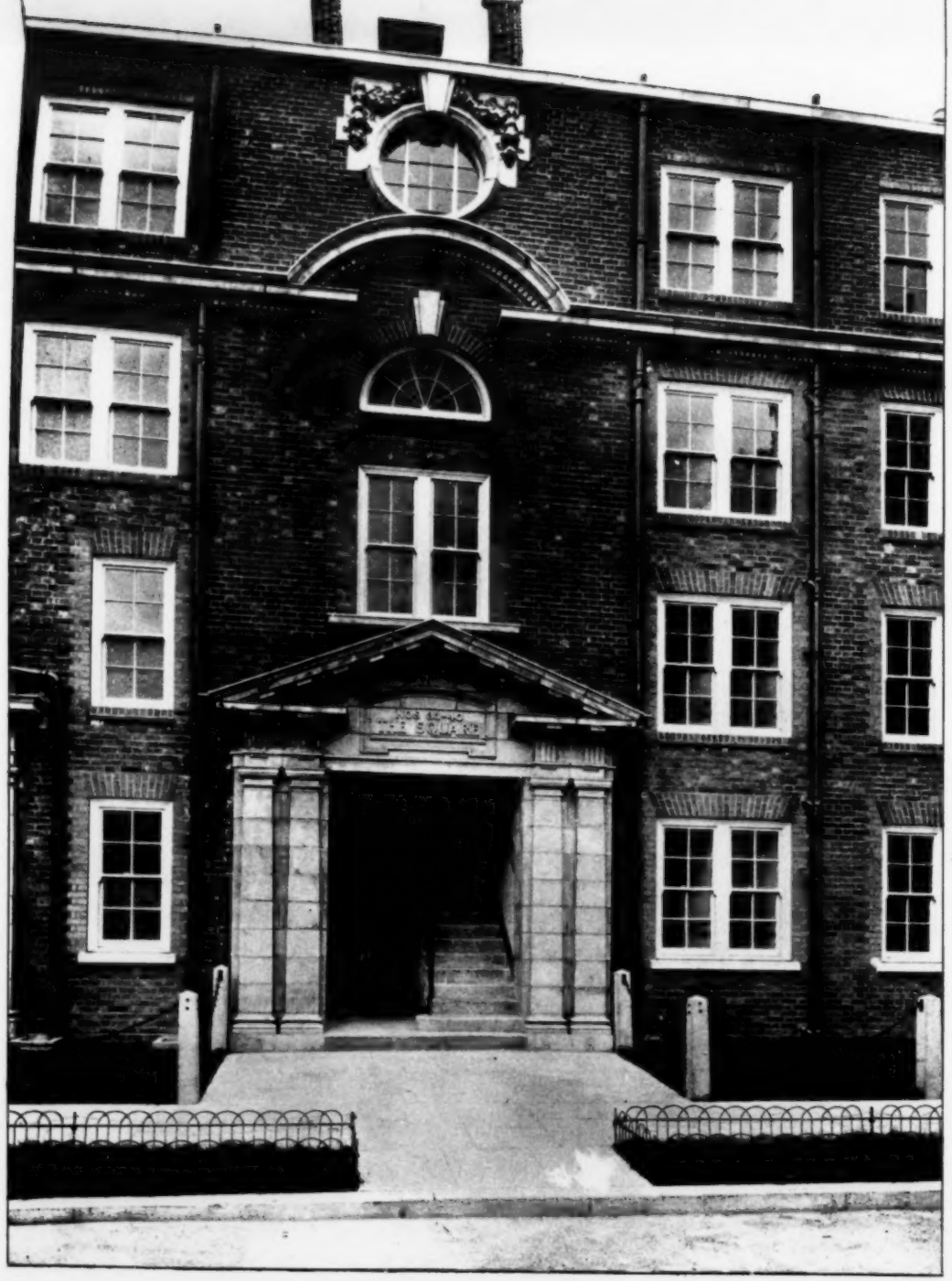
UNIV. OF MICH.

View showing Interior Blocks.



Queen Street Entrance to Square.





Detail of one of Block Entrances.

Detail of Main Entrance, Fulham Palace Road.

PEABODY BUILDINGS, HAMMERSMITH.

Mr. Victor Wilkins, F.R.I.B.A., Architect.

View from Square, shewing Cottages.

Sunk Garden in Main Square.

PEABODY BUILDINGS, HAMP

Mr. Victor Wilkins, F.R.I.B.A

Elevation facing Fulham Palace Road.

View shewing Interior Blocks and Superintendent's House.

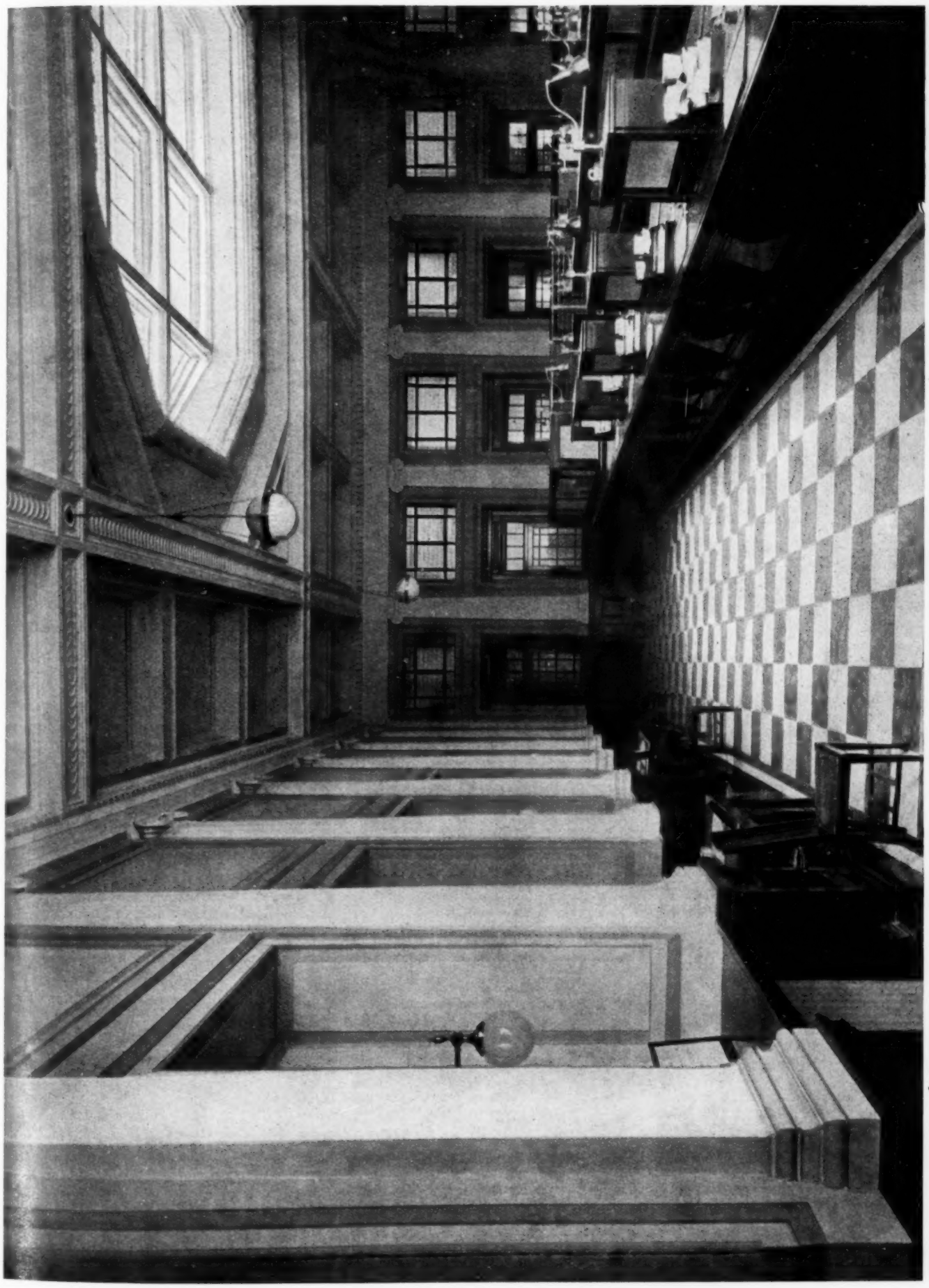
BUILDINGS, HAMMERSMITH.

Vilkins, F.R.I.B.A., Architect.

OFFICE

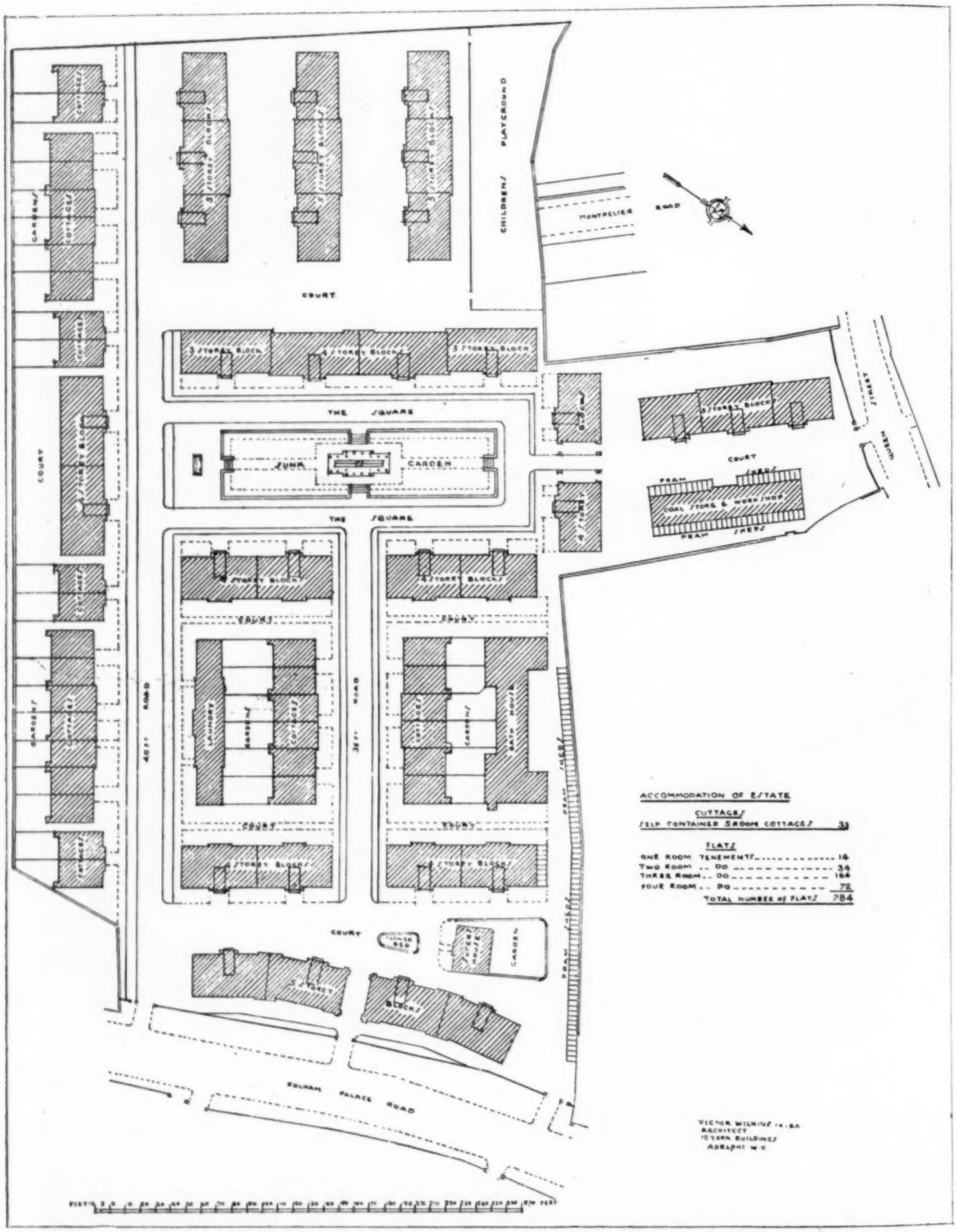
Lloyds Bank, Hereford: Exterior.

MESSRS. WALLER & SON, Architects.



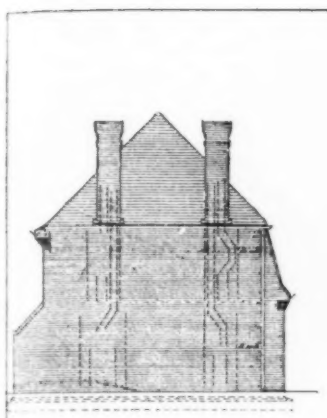
Lloyds Bank, Hereford : Banking Hall.

MESSRS. WALLER & SON, Architects.

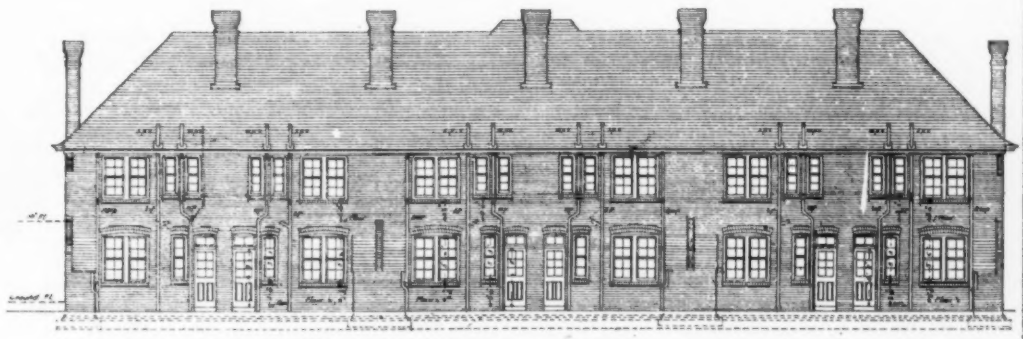


The Peabody Estate, Fulham Palace Road, Hammersmith: Block Plan.

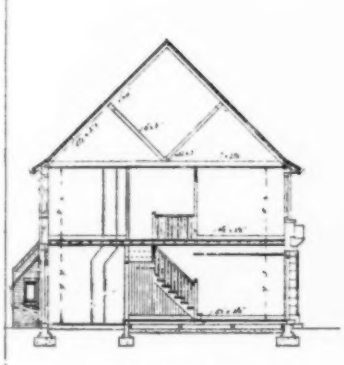
MR. VICTOR WILKINS, F.R.I.B.A., Architect.



END ELEVATIONS

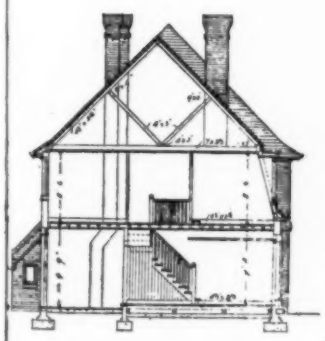


BACK ELEVATION

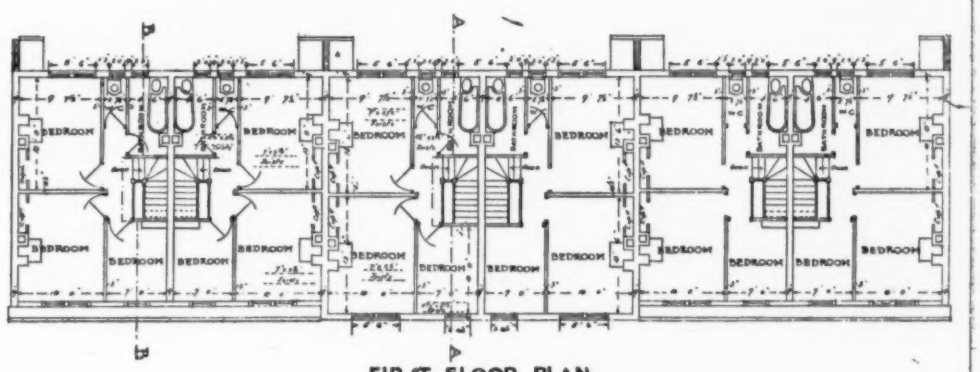


SECTION A.A.

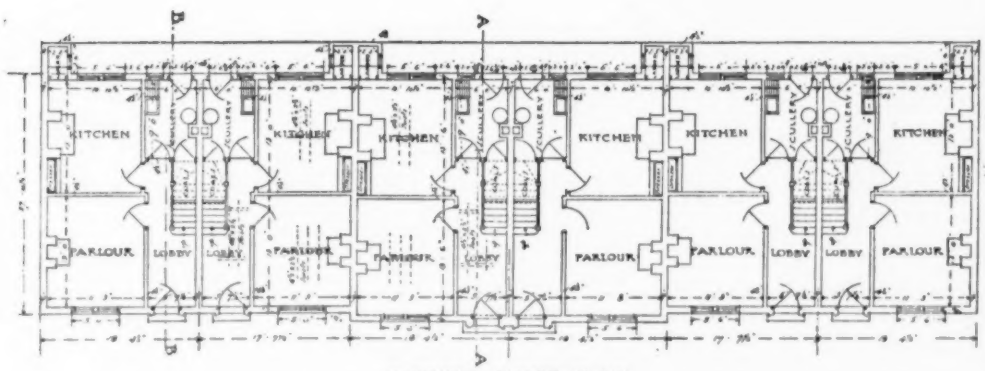
FRONT ELEVATION



SECTION B.B.



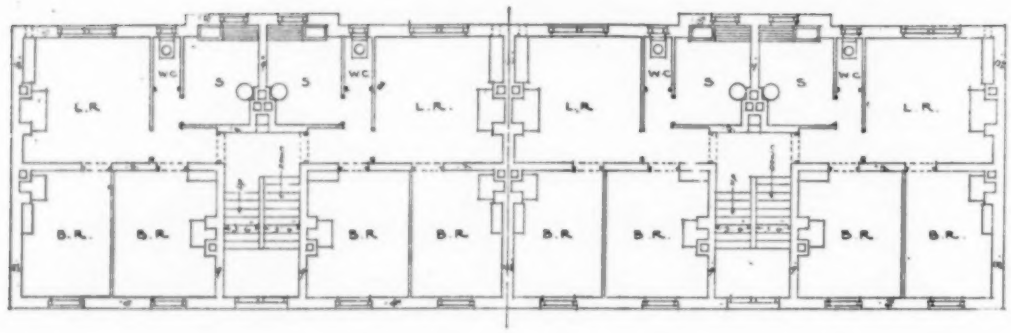
FIRST FLOOR PLAN



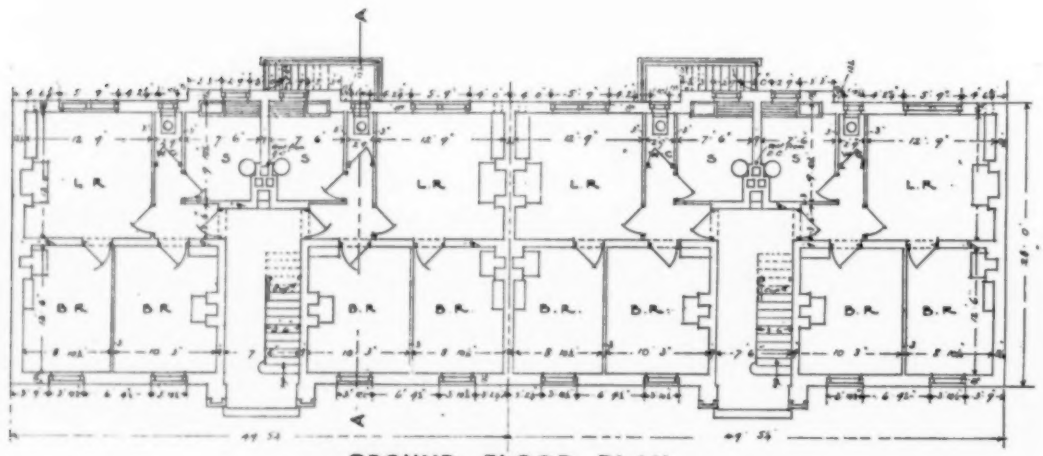
GROUND FLOOR PLAN

The Peabody Estate, Fulham Palace Road, Hammersmith : Cottages.

MR. VICTOR WILKINS, F.R.I.B.A., Architect.

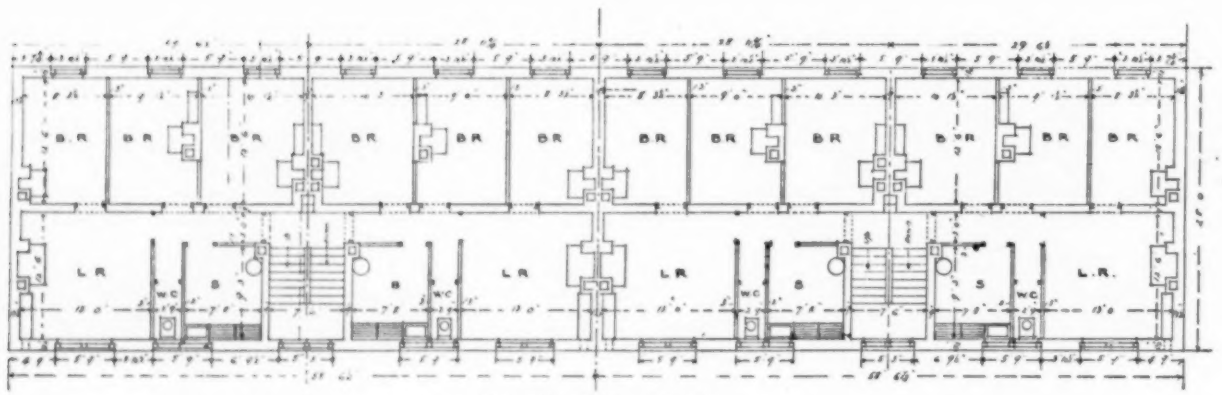


1ST FLOOR PLAN

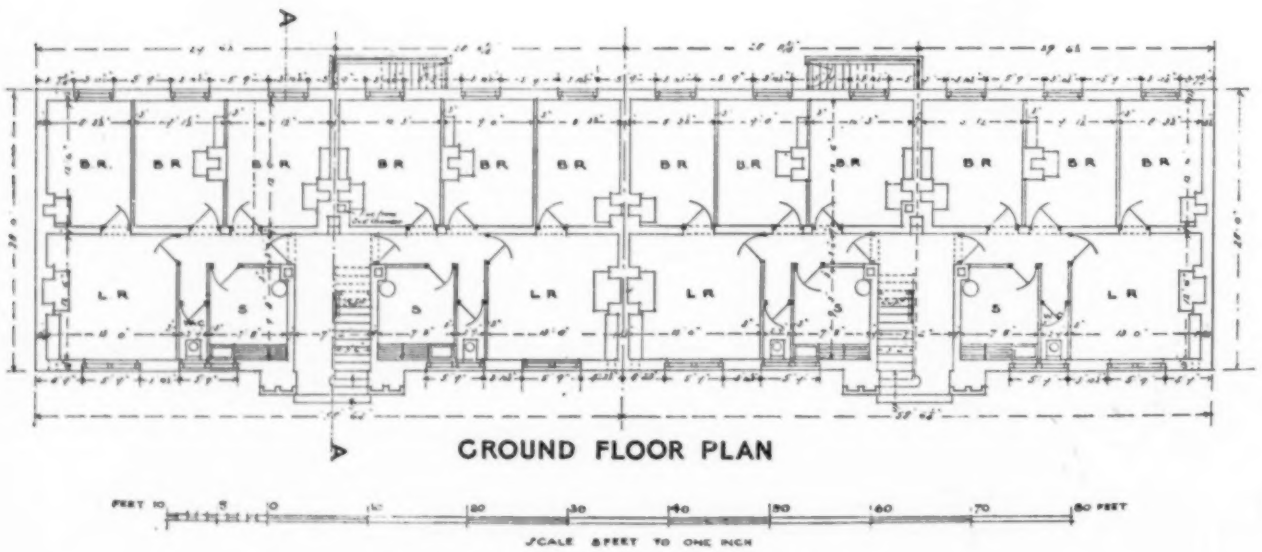


GROUND FLOOR PLAN

3-roomed Tenements, Blocks 5 to 12.



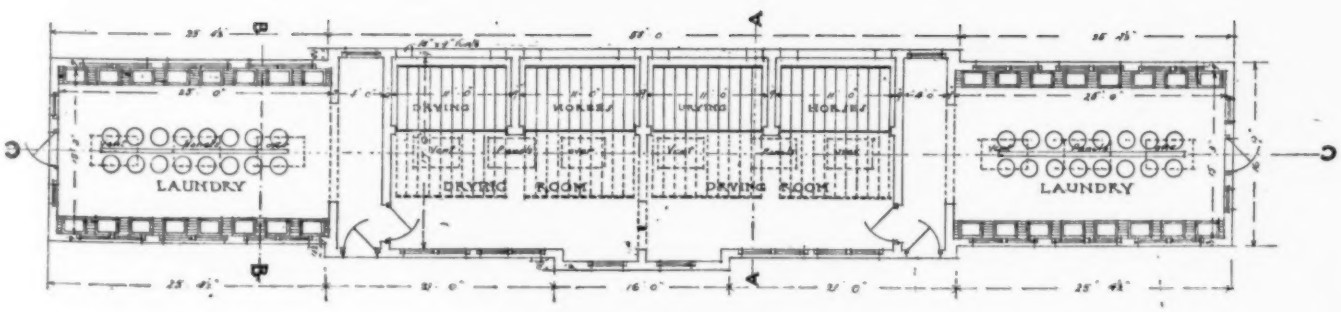
1ST FLOOR PLAN



GROUND FLOOR PLAN

4-roomed Tenements, Blocks 19 and 20.

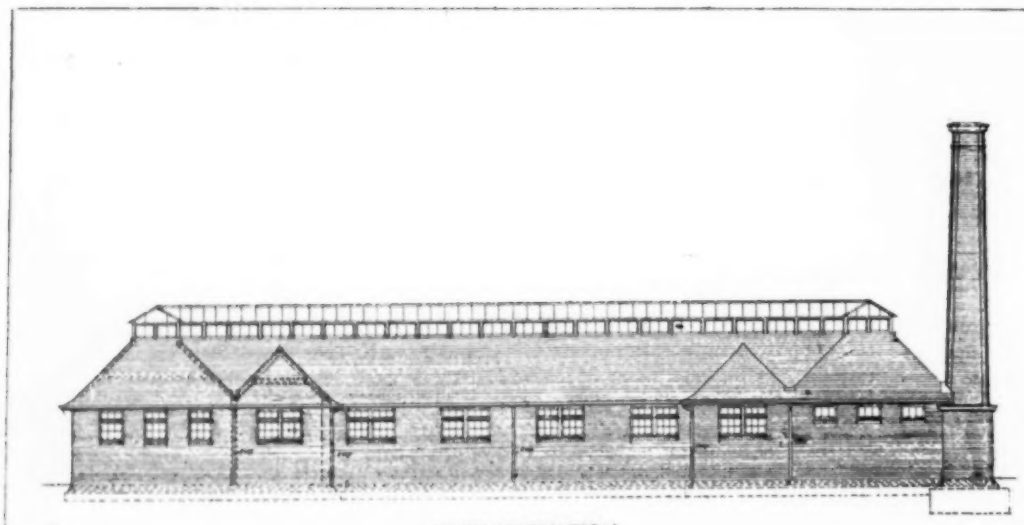
The Peabody Estate, Fulham Palace Road, Hammersmith. MR. VICTOR WILKINS, F.R.I.B.A., Architect.



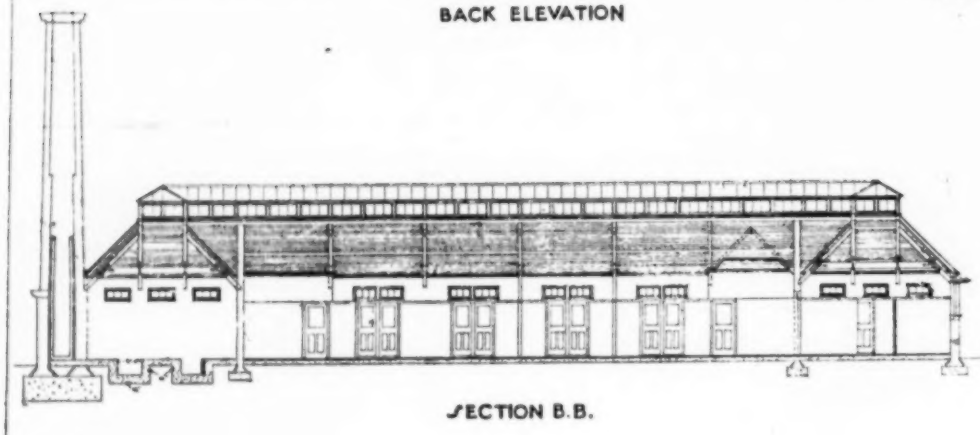
GROUND FLOOR PLAN

The Peabody Estate, Fulham Palace Road, Hammersmith: Steam Laundry.

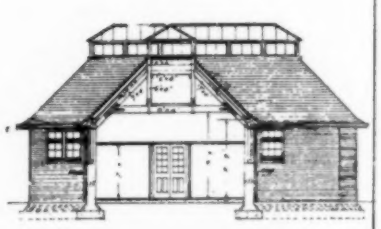
MR. VICTOR WILKINS, F.R.I.B.A., Architect.



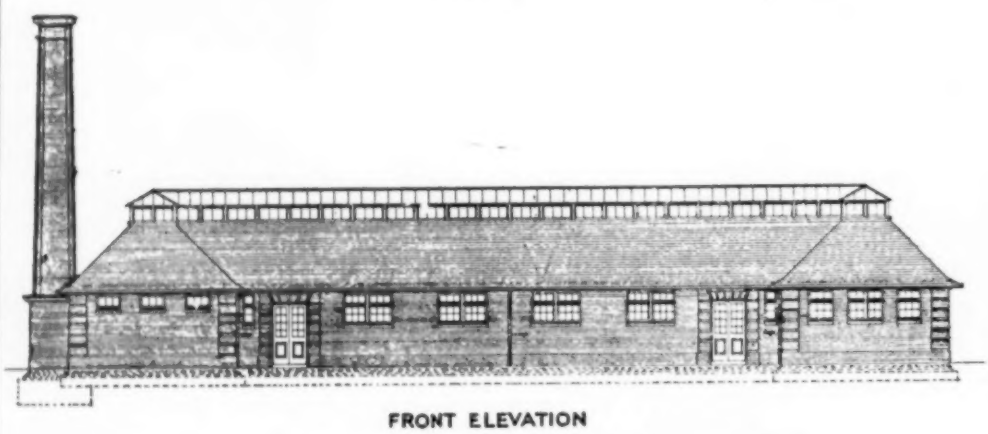
BACK ELEVATION



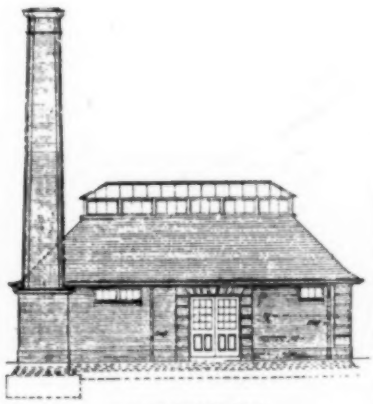
SECTION B.B.



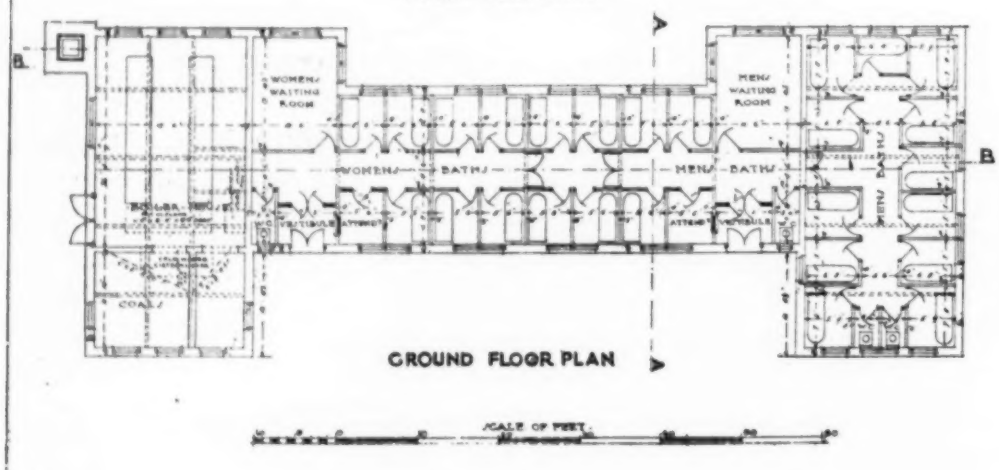
SECTION A.A



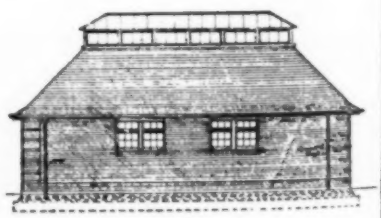
FRONT ELEVATION



N.E. ELEVATION



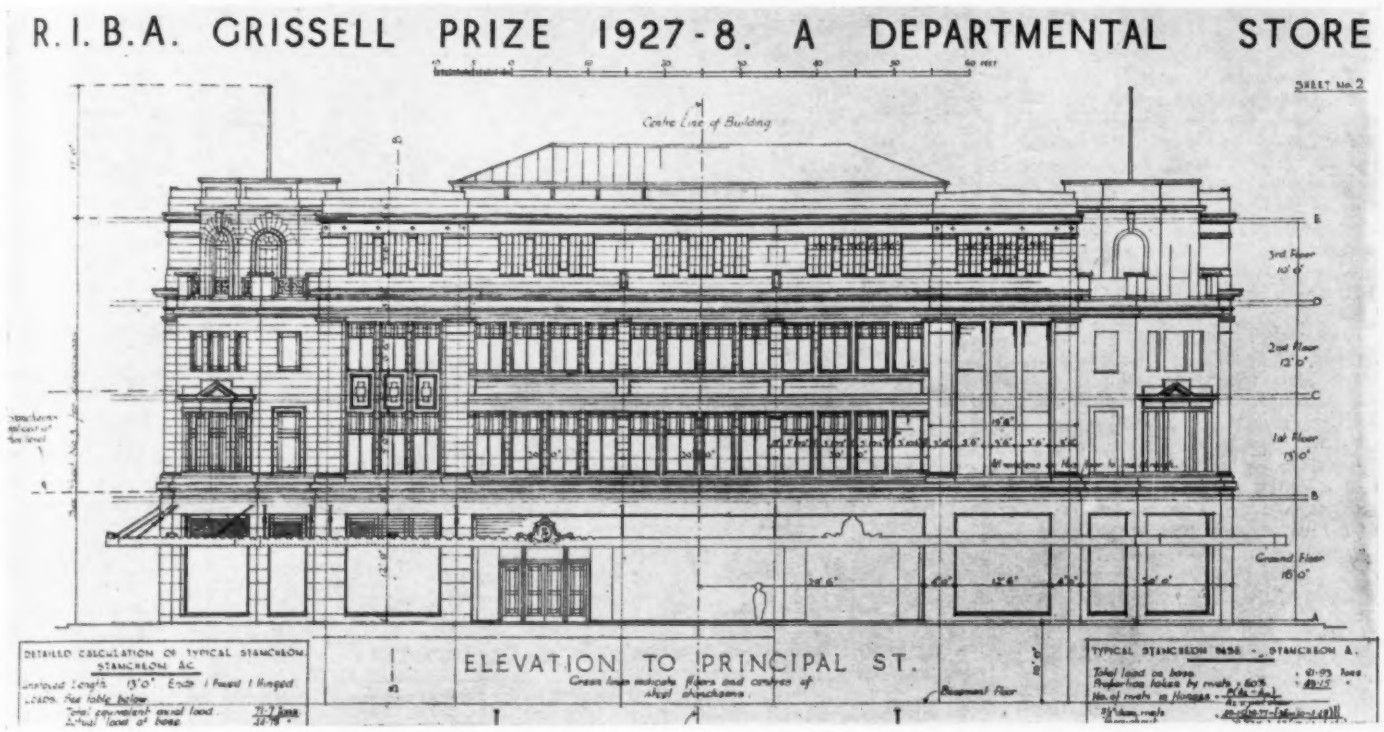
GROUND FLOOR PLAN

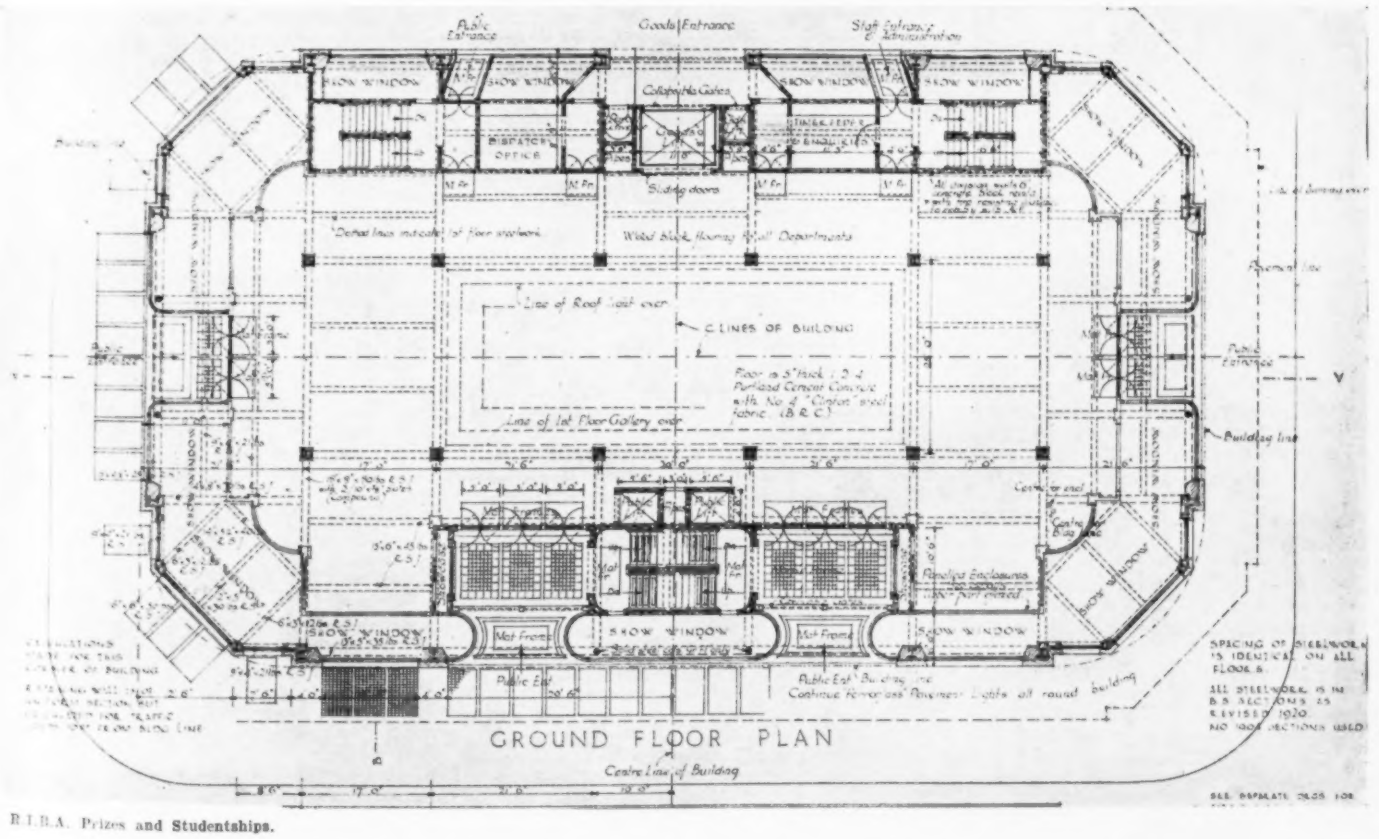


S.W. ELEVATION

The Peabody Estate, Fulham Palace Road, Hammersmith: Bath and Boiler House.

MR. VICTOR WILKINS, F.R.I.B.A., Architect.

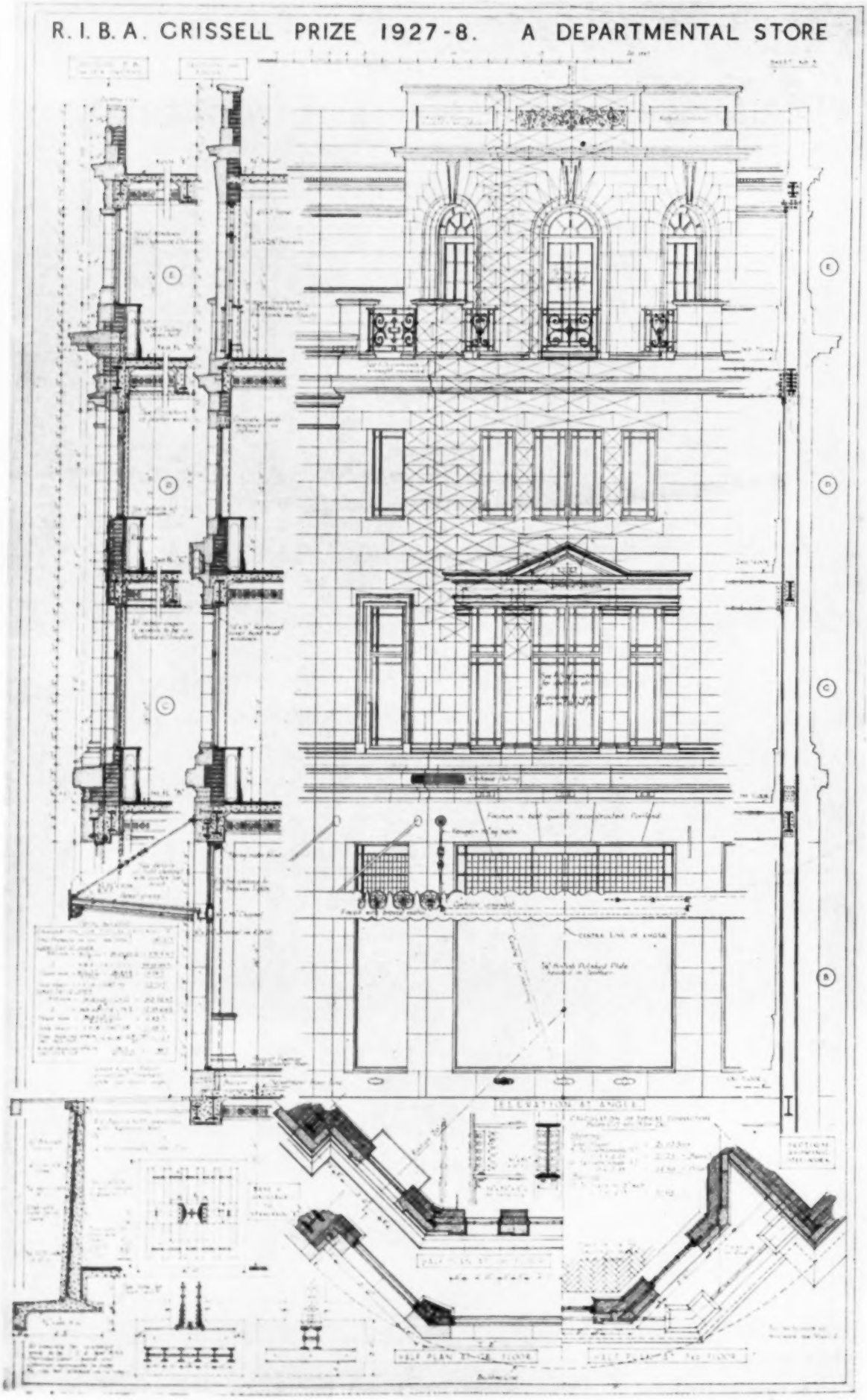



Public Entrance
Goods Entrance
Staff Entrance & Administration
SHOW WINDOW
Cataphote Glass
DISPATCH OFFICE
Sliding doors
Detail lines indicate floor markers.
Wood block flooring to all Departments
Line of Roof light over
C. LINES OF BUILDING
Floor is 5" thick R.C.C. of Portland Cement Concrete with No. 4 "Clipton" steel fabric (B.R.C.)
Line of 1st Floor Gallery over
Building line
Mat Frame
Public Entrance
Public Entrance Building line
Continue terrazzo Pavement Lights all round building
GROUND FLOOR PLAN
Centre Line of Building

R.I.B.A. Prizes and Studentships.

The Grissell Gold Medal. "Shop Premises for a Departmental Stores": Winning Design.

BY MR. ALFRED G. GEESON, A.R.I.B.A.



R.I.B.A. Prizes and Studentships.

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THE NEW FORM OF BUILDING CONTRACT

I.—A DETAILED CONSIDERATION.

By E. J. RIMMER, B.Sc., A.M.Inst.C.E., BARRISTER-AT-LAW.

Introduction.

IT is now officially announced that the Conditions of Contract Conference set up for the Building Trades in 1923 has come to a complete agreement as to an amended form of Standard Building Contract for the Building Trade in England and Wales, and that the agreed form has been favourably reported upon by Sir William Mackenzie, K.B.E., K.C., to whom the parties submitted the agreed draft.

There has been no form of building contract approved for the building trade since 1909 (in a form known as the 1909 R.I.B.A. form), and in 1919 the building employers put forward proposals for a revision of this form. The negotiations for a form of building contract which satisfies the architectural profession and the building employers have therefore been very prolonged, and the Conference and their legal chairman, Mr. Lawrence Tooth, are to be warmly congratulated upon the conclusion of their labours.

It was almost immediately after the conclusion of the war that the National Federation of Building Trade Employers published a document called the "National Building Code," which they placed before the Royal Institute of British Architects and other professional bodies as representing conditions which, in their opinion, should be the basis of consideration and discussion with a view to an amended form of contract. This Code was the subject of criticism in *The Builder* in March, 1920, and as a counterblast to such document, the Royal Institute of British Architects published a form of contract in 1920, while the Society of Architects relied upon a form which they had issued in 1918, neither of which were acceptable to the building trade employers, so that it appeared by 1922 that none of the drafts submitted by the parties to the Conference would be acceptable even as a basis for consideration.

In 1923 a new start was made upon a revised draft submitted to the professional representatives by the National Federation of Building Trades Employers, and it is understood that since the publication of that document, every detail of it has been most carefully sifted and considered by Drafting Committees elected by the Conference. The Draft has undergone very considerable modification, and the now published agreed form may be regarded as a revision of the 1909 R.I.B.A. form by the inclusion of terms involving some important changes necessitated by the changes in building trade practice which were contained in the Building Employers' Draft of 1923.

Agreement was reached by the Conference on the 21st December last, but the Conference decided that, before publication, the form should be placed before Sir William Mackenzie (who, as late President of the Industrial Court, and previously a practitioner in matters which made him highly competent to deal with such matter), for an expression of opinion as to whether or not the form was one which in fairness to all parties concerned was desirable.

Sir William Mackenzie has made a report to the Conference which leaves no doubt as to his views upon the question. It reads as follows:—

STANDARD FORM OF BUILDING CONTRACT.

"In my judgment the Standard Form of Building Contract submitted to me for my consideration is a really notable achievement on the part of all concerned. No more complex questions, under all the varying circumstances that may arise, can emerge for consideration than under a Building Contract.

"The power of the Building Owner to vary or add to the contract works; the dislocation caused by circumstances outside the control of parties, e.g., by trade disputes or weather conditions; and the delicate and difficult questions which may arise with adjoining owners are apt illustrations of the matters to which I refer.

"The Standard Form of Contract is comprehensive, including not only building but all manner of constructional works.

"The standardisation of the relative rights and liabilities under a Building Contract on a basis that is fair and just to the Building Owner on the one hand and the Contractor on the other, with due regard to the interests of the Building Industry as a whole, and the applicability of such a contract to all classes of work present a problem of no mean order.

"I think that the Standard Form has solved the problem with signal success.

"It is plain to me that the most careful and detailed consideration has been brought to bear upon each and all of the clauses with a view to securing what is fair and reasonable to all the parties concerned, without losing sight of the overriding necessity of not impeding the due and regular progress of the Contract Works.

"No Building Owner need fear that his interests are prejudiced. Indeed, I am convinced that the Architect under the Standard Form is, in many ways, in a stronger position and can more properly and effectually subserve the interests of his Client than formerly.

"So far as human foresight can attain it, all possible cases of doubt or difficulty appear to have been removed by this Agreement; and I am especially pleased with the lucidity and simplicity of the language used.

"It is my considered opinion that it is difficult to measure the advantages that will flow from the general adoption of this Standard Form of Contract. The elimination of uncertainties and ambiguities and the certainty introduced by a standardisation on fair and just lines in clear and simple language must necessarily create confidence throughout the Building Industry; and I cannot doubt will by reason of equitable and known conditions result in closer prices and in reducing building costs.

(Signed) WILLIAM W. MACKENZIE."

In view of such a striking testimony to its fairness, it must be assumed that the early future will find the use of this new agreed form of Contract (which presumably will be called the 1928 R.I.B.A. form) in lieu of the 1909 R.I.B.A. form, and for this reason a close consideration of it is necessary from all those who are engaged in the building industry. It is for the purpose of assisting that consideration that this and the following articles in *The Builder* are to be published, and although it is not proposed to pay too close attention to the actual words of the various clauses contained in the form, an attempt will be made here to give, in broad outline, a consideration of all the essential provisions of it, as a guide to those who may study the form in more detail and as an indication to those who have no time or opportunity to consider the wording of the form, what, in essence, it provides. It will also be convenient in passing to refer to the extent to which the parties have, in the agreement they have made, withdrawn from the position taken up by them before the Conference, in the original drafts of contract submitted by the one and by the other.

From the broadest possible point of view, it would be correct to say that in the new agreed form the architects have, with many safeguards, been persuaded to grant to the builders their chief aim, which was the diminution of the unknown risks and obligations of the contractor and the reduction of the gambling element in the trade. It has always been urged by the more responsible firms of building contractors that even where very good bills of quantities are provided and a very complete set of plans prepared by the most efficient quantity surveyors and architects respectively, their trade is a risky one, in that the 1909 Form placed upon them the obligations and liabilities for damage caused by the operations even though carried out strictly according to direction and without negligence; for unknown requirements of local authorities; for calamities due to Act of God, war, civil commotion, etc., and every other unknown factor, both in regard to design and construction, although not set out in the plans and quantities, while such risk was vastly increased when bills of quantities and plans were not so efficiently prepared. They urged further that if this were so, a prudent contractor who ran his business upon strictly commercial lines would only tender for the work under such a contract after loading his price with a contingency item which might in certain events be very considerable, and that they therefore found themselves at a considerable disadvantage in tendering in competition with those employers who were less prudent in their trade. They further urged that those of their fellows who were imprudent in this respect were obliged, in the event of any of the contingencies happening, to attempt to scamp their work in order to reimburse them for the losses for which they had made no allowance. They therefore argued that anything which would have the result of reducing the unknown factor in the building trade would be generally for the benefit of the trade and for those who employed the trade in the construction of work; that contractors who had no contingencies to provide for would shape their prices on more exact information; that prices would, as a result, inevitably fall; that the contractor who ran his business on commercial lines would be more likely to obtain a work in competition with his fellow contractors, that the chief incentive to scamp work would be removed and that the building owners, instead of paying indirectly for contingencies which might never happen, would only pay if such contingency did in fact befall.

The reply of the architects, as indicated by the agreement that has been made, seems to have been sympathetic, but they have fully realised the dangers of accepting such conditions as applicable to all types of contingencies. They have, for example, made it abundantly clear that the contractor and the contractor alone is to be responsible for the efficiency of the workmanship and quality of material, and that any contingency which could be controlled by a proper supervision of his workmen, or by the use of efficient and suitable plant is not a contingency for which the employer could, in any event, agree to be liable. In addition, the architects have insisted that if the employer should make it clear to the contractor what contingency he desires should be covered and the extent of the contractor's liability, he may call upon the contractor to include a cover for such contingency in his contract.

On the whole, however, the contract does grant to the contractor a larger degree of security in the business that he undertakes. Certain items which in the 1909 form were often embraced in the contract sum have now become provisional, certain risks which in the 1909 form were unlimited risks have become limited, while generally speaking, the bill of quantities becomes the most important document in the prescribing of the work the contractor undertakes to do for the contract sum.

Another controversy which the agreed form settles once and for all is that concerned with the status of the architect. The builders have always admitted that, as a body, the architectural profession is composed of men of the highest honour and integrity, but have urged that notwithstanding this fact, which ensures a high percentage of men who would, in a dispute between the builder and employer, decide the question without regard to their personal interests, it is not consistent with modern practice that a builder should at any time be placed

in the position of having to accept a final decision from one who, in any particular instance, may find his personal interests so strong as to overweigh his sense of justice. The new form provides that every decision of an architect affecting questions placing additional cost, loss or damage on to the contractor shall be the subject of appeal to an independent person. The architect, by reason of such provision, becomes solely the agent for the employer, and will, it is submitted, be freer to exercise his professional skill in the employer's interests without regard to other interests; and, on the other hand, the contractor will feel that he has no possible ground for complaint, whatever the requirements of the architect may be, as a remedy is open to him. In making this substantial change in the form of contract, the architects have insisted upon certain safeguards being inserted to ensure that the right of the contractor to arbitration shall not be used so as to cause delay in the works. The enact of the provisions, which will be dealt with in more detail hereafter, places the architect in supreme control of the works on behalf of the building owner, and the contractor must do what he is required to do without delay, but he does it with the confidence that if loss or damage to him is incurred he will be entitled to compensation at the hands of an independent arbitrator.

The method of appointing such arbitrator has been varied. The architects have taken extreme care to remove any possible ground of complaint that may in any instance be felt against the ruling practice that after all means of agreeing with an arbitrator have been exhausted the President of the R.I.B.A. should appoint a person to act. In order to meet the possible contingency of an appointee of the President being unacceptable to the builder (presumably owing to previous business relations or similar circumstances), it has been agreed that the President will, in future, make a double nomination, from which the builder will select one. This concession, on the one hand, appears to give proof to the extremely fair manner in which the negotiations have been conducted by those representing the architectural profession, and, on the other, the new clauses expressly acknowledging the supreme control of the architect in all matters effecting the ultimate result of the work, show that there has been a readiness on the part of both parties to the conference to accommodate each other so far as possible, provided it can be done without injury to the trade and the persons whom it serves—the building owner.

There are many other modifications of the old form, but these, together with a more detailed consideration of the various matters outlined above, will be dealt with in subsequent articles under this head.

(To be continued.)

ILLUSTRATIONS.

Continued from p. 136.)

The Grissell Gold Medal.

We illustrate this week the winning design for the Grissell Gold Medal, by Mr. Alfred G. Geeson, A.R.I.B.A. The full awards of the R.I.B.A. prizes and studentships were given in our last issue.

The Norwegian Church, Rotherhithe.

We give this week a sketch, by Mr. Francis H. Bulmer, A.R.I.B.A., of the new Norwegian Church at Rotherhithe. The church stands on the right of the entrance to the Thames tunnel and on the bend of the Jamaica-road. The brilliance of red bricks and tiles, the richness of the new copper cupola and spire, combined with the whiteness of Portland stone, make a picture that is all the more pleasing in view of the rather drab setting. The Viking ship surmounting the spire, and the Norwegian flag flying, proclaim its nationality.

Mr. J. L. Seaton Dahl, F.R.I.B.A., is the architect, and G. C. Dallis & Sons, Ltd., of Maidstone, Kent, were the builders.

ARCHITECTS' & BUILDERS' INQUIRY BUREAU

We are glad to give questions and answers, but cannot accept responsibility for contributed replies, especially on legal matters.

May we appeal to our correspondents to submit their queries on paper of a size easily filed, and written as legibly as possible, or, better still, in typewriting—ED.

Cleaning White Marble Hearths.

[REPLY TO J. & CO., JANUARY 13.]

SIR,—I have usually found lime, or a strong solution of soda stiffened to a round paste, effective. In a few stubborn cases, however, I have resorted to one or other of the paint solvents, but these were rare.

JOHN M. FIFE.

SIR,—For badly stained marble it is better to send to a marble mason to work the surface right down and re-polish, but it needs a valuable piece of marble to make this expense worth while. RENEW.

Measuring Sashes and Frames for Painting.

SIR,—A short time ago correspondence on this subject appeared in your Inquiry Bureau page. A method practised is to measure the sashes and frames all in with the elevation, then add 5s. for each window opening, irrespective of its size or whether sashes contain six or more squares of sheet, or only one of polished plate glass.

JOHN M. FIFE.

Arbitration.

[REPLY TO "PROFIT AND LOSS," JANUARY 6.]

SIR,—The R.I.B.A. Form of Contract includes an arbitration clause, but it is naturally an expensive matter to act upon it since it only contemplates matters of major importance. For all matters not referred to arbitration the architect is the sole judge and his ruling final and binding upon both parties. If it were possible to override the ruling of the architect upon every trivial point at issue for a small fee, the position of an architect would be quite untenable, and the position of the building owner and the builder would also be less satisfactory than under present conditions. This is assuming that your correspondent refers to jobs on which there is an architect. If there is no architect, your correspondent may rest assured that the R.I.B.A. is not likely to assist. ARCHITECT.

Safe Resistance for Beams.

[REPLY TO "LINTOL," JANUARY 13.]

SIR,—"Lintol" would be well advised to study one of the short standard works on stresses and strains before relying upon any bare formulæ he may be given. A slight knowledge of the theory will suffice to assist his memory, besides showing him the meaning of the calculations. THEORY.

Washable Paints.

[REPLY TO MR. H. COLLETT, JANUARY 13.]

SIR,—I should advise your correspondent to treat the surface of the walls with one of the better-known petrifying solutions, after which it may be painted with oils. If it is properly mixed to the maker's instructions there is no reason why a waterproof surface should not be arrived at in this way. Failure may generally be traced to bad mixing, often by workmen who have no faith in the material. I had a very bad case cured by the above treatment not long ago.

TANK.

Another answer to this inquiry, which appeared in our last issue, has been forwarded by post.

Bridge Construction.

SIR,—I shall be glad to hear of a standard work dealing with bridge construction, as applied in particular to small bridges carrying highways over streams, etc. Could one of your correspondents help me? TYRO.

Lifts.

SIR,—I should be glad to have your advice as to the best type of lift to use for heavy goods traffic, whether electric or hydraulic. Most firms of specialists deal mainly in one type and naturally push their own product, so that it is difficult to arrive at a sound judgment. MERCHANT.

MODERN COTTAGE PLANNING AND DESIGNING

AT the College of Estate Management, on Tuesday, the 3rd inst., Mr. T. Alwyn Lloyd, F.R.I.B.A., M.T.P.I., delivered the first of two lectures, the first on the subject in the title, the second to be on modern cottage construction. He said it had only been in recent years that professional men were consulted in the building of small dwellings; previously, and to some extent it was so still, it was looked upon as the job of the builder, the estate carpenter, or the handyman. The speaker contended, however, that technical skill in planning and lay-out was as necessary for the small cottage as for any other erection. Most of the building in the country was of the cottage and villa class. Designing of single cottages or pairs of cottages was a different matter from groups on a large estate. It was very important that buildings should harmonise with their surroundings, particularly in detached structures. Surveyors, estate agents, and others concerned with buildings could do much to instil right ideas regarding them. The prevailing tendency to string out new houses in ribbon fashion was much to be deplored; it presented an untidy and monotonous appearance and was uneconomical. The importance of placing houses away from actual main roads became, by virtue of the great growth of motor traffic, greater every year.

At the present time there was a great demand for the building of bungalows, that demand having started immediately after the War; it expressed the feeling of reaction against the too prevalent overcrowding. It was true there was great saving of effort in having no stairs, but in many ways the bungalow was not the most economical type of building. Bungalows and double-storied houses should not be built indiscriminately, without any sort of general plan. He referred to the formation of the Council for the Preservation of Rural England, and said that, if the present ribbon development was carried on much longer, there would be little of rural England left. The aspect of houses was very important, and nothing should be allowed to interfere with giving rooms the best possible aspect. The best aspect should be allotted to rooms most used. The living room or main sitting-room should never face north.

The lecturer then dealt in detail with the various types of houses, such as the parlour house and the non-parlour house. The living room should never have a less area than 160 superficial feet. His experience of schemes was that about 60 per cent. of people wanted non-parlour houses and 40 parlour houses. A front door should never open direct into the living room, neither should stairs enter direct from that room. He favoured placing the range or the fire in the living room, not in the scullery, otherwise the warmth and comfort of the latter would lead to it being used as a living room. Recent housing legislation had wisely enacted that the bath should be a fixed bath and in a separate apartment. The lecture concluded with a reference to fittings, the position of the w.c., the number of bedrooms, etc., illustrated by a number of plans and sketches of actual housing schemes with which he, the lecturer, had been concerned.

LEGAL QUESTIONS WE HAVE BEEN ASKED—II

By W. T. CRESWELL, Barrister-at-Law, L.R.I.B.A., Associate (late Fellow) Surveyors' Institution, etc.

HOW CAN BUILDING DISPUTES BE AVOIDED?

To this question, the most appropriate answer would appear to be, when the lion and the lamb shall lie down together, and the little child shall lay its hand on the cocatrice's nest without chance of injury. Because that is the point where the extremes meet; the one, a lack of any agreement or any principles of Common Law in a Utopia where reigns absolute justice, shared by a race of uniformly high intelligences; the other, the absolutely perfectly written agreement and established law in a perfectly organised community—also shared by a race of uniformly high intelligences. Until one or other of these stages is reached, there will always remain those who seek to overreach their just rights intentionally, or under some misunderstanding of the same, by special interpretations and ambiguous or obscure phraseology in documents, or by the endeavour to disprove the claims of the party to an oral agreement. Further, it is a recognised principle that in a subsequent dispute no reliance can be placed on a statement of intentions by the parties to a contract, as these are, of course, biased, if not wilfully distorted; so that when dispute arises their respective or mutual intentions must be deduced and reconstructed by others from a consideration of their actions and what written evidence exists under a presumption of their individual knowledge at the time of entering into the contract, or alleged contract, of their responsibilities under existing law.

Hence it would appear that building disputes will continue, and the most useful answer to the question put is, for present and practical purposes, a review of those methods legitimately open to each party in order that he may protect his original interests against encroachment by the other party, his agents, administrators or assigns.

The first of these methods is undoubtedly not to enter into any agreement unless its basis is a written document and drawings, etc., set out in clear, concise and unambiguous phraseology and lines. Further, it is essential that these drawings and documents be not only carefully drawn up and couched in customary terms, but that they should also be clearly understood by all the parties to the contract with their effect on the particular work undertaken. Conversely, disputes are invited by loosely worded and overreaching conditions, badly drawn plans, ill-prepared specifications, the latter not infrequently containing clauses unexplainable by anyone and bearing no traceable reference to the particular job in hand

How often, for instance, does one find the word "provide" used when it should have been "allow," and vice versa; or, again, scantlings of timber specified in sizes which are impracticable and unobtainable; or, again, dimensions figured on plans to which it is impossible for any builder to "set out" the work so as to use the materials specified, and so forth.

Oral Agreements, Etc.

Avoid all oral agreements, and reduce to a minimum the scope for the giving by anyone of verbal directions, during supervision of the work. In undertakings of small magnitude this can be forestalled, and in works of magnitude they invite and most often lead to dispute. In modern practice they are of rarer occurrence than formerly: yet experience shows, that though in other ordinary commercial undertakings business men have a natural and wise preference for agreements in writing, nevertheless many building contracts are still with definite intention entered into without a scrap of paper.

It is one of the objects of this article to contend that all the good reasons at times put forward for this course are immeasurably outweighed by the risks of dispute.

These oral agreements are, in case of dispute, very difficult to prove, and the reconstruction of the intention of the parties cumbersome and unsatisfactory. It is impossible to rely on the *memory* of any employer, architect, or contractor, and, it may be added, when, as occasionally must occur, that one party is incapacitated from any cause, it is much more difficult to reconcile the claims of his agents, etc., with those put forward by the other party to the agreement.

Common Origin of Disputes.

Building disputes mostly arise in reference to (*a*) workmanship and materials; (*b*) delay in granting interim or progress certificates; (*c*) claims for "extras"; (*d*) delay in completion, penalties and damages; (*e*) ownership of plant and materials; (*f*) interim completion and final certificates; (*g*) retention monies and maintenance.

Arbitration Clause.

To provide for an amicable settlement to these disputes, a properly framed arbitration clause should be included in the original contract; it should be clearly defined and distinguished from a mere *valuation*. The wording of many arbitration clauses is not clear, and, therefore, does not accomplish the intention of the parties when it is put into operation. The arbitration clause should make clear that a *judicial* inquiry is intended by the parties in a prospective dispute, and that the arbitrator will be bound to hear evidence or arguments. A clause providing that any question concerning values shall be referred to a third party for his *personal opinion* on the point raised, and in order to *prevent dispute*, is a valuation only. See Carus-Wilson and Greene, *In re* (1887), 18 Q.B.D. 7. The wording of some arbitration clauses is so ambiguous that it has been said over and over again, that all cases which raise the question whether an arbitration or valuation is intended, must be determined by the Court, each according to its particular circumstances.

Architect Sole Arbitrator.

On no account, however, should the architect be made the sole arbitrator in all matters in dispute between the employer and the contractor. It may quite probably be impossible in a dispute to reconcile and serve his own interests and those of the employer as well as the interests of the contractor. It is a principle of Common Law and human experience that it is impossible for a man to be "judge in his own cause." It is useful that his decision be made final on certain specified points involving the application of his skill and art as an architect, and which must arise from time to time during the course of the work, and which should be brought forward by the contractor for the architect's instructions and decision. But in disputes coming under the heads enumerated above, as, for instance, the granting of certificates, etc., provision should be made for the opening up and review of his decisions.

Equal Protection to the Parties.

The arbitration clause gives equal protection to both parties to the contract, and places a limit for the exercise of the architect's authority and discretion. In Robins v. Goddard (1905), 1 K.B. 294, R., the plaintiff contracted with G., the defendant, in a building contract, the form of contracting being that of the R.I.B.A., which, *inter alia*, provided that "No certificate of the architect shall be conclusive evidence as to the sufficiency of any work or materials to which it relates, nor shall it relieve the contractor from the liability to make good all defects." There was also an arbitration clause. R. brought three actions against G. on certificates of the architect. G. pleaded that the certificates were in respect of work done and materials supplied, which were not in accordance with the contract, but were defective and unsuitable. It was held that the arbitration clause prevented the certificates from being final, and that G. was entitled to set up his defence and counterclaim. Collins, M.R., said: "If something which purports to be conclusive is made subject to revision, it loses its quality of finality."

Arbitration When No Dispute.

It is generally conceded that a dispute is a preliminary essential to an arbitration; but it has been held that an architect may take the position of an arbitrator when no actual dispute has arisen, but it is required of him to give a judicial decision. In Chambers v. Goldthorpe (1901), 1 K.B., 624, there was a building contract containing a clause that the architect's certificates showing a final balance, after interim payments to the contractor, should be conclusive evidence of the satisfactory completion of the work. The plaintiff, an architect, sued the defendant, his employer, for work done by him in relation to the building of certain houses. The defendant admitted the claim, but counter-claimed against the plaintiff for negligence, as his architect, of business undertaken for him and for reward by the plaintiff; the alleged negligence being the careless measuring by the architect of work done by the contractor in the erection of the houses, and the permitting the latter to include in his accounts sums to which he was not entitled, and the certifying such accounts, whereby the defendant suffered loss. It was held that the architect, in ascertaining the amount due to the contractor and certifying for the sum under the contract, occupied the position of an arbitrator, whose decision was final, and not to be reviewed, and, therefore, he was not liable to an action by his employer for negligence in the exercise of those functions. A. L. Smith, M.R., said: "It was argued that there was no dispute between the parties prior to the plaintiff giving his certificate, and that unless there was a dispute the plaintiff could not be in the position of an arbitrator. But I do not see why there should not be an arbitration to settle matters, as to which, even if there was no actual dispute, there would probably be a dispute unless they were so settled." And again, he said, "I cannot come to the conclusion that the architect's sole duty was to protect the interests of the building owner against the builder. I think . . . he owed a duty to the builder as well as to the building owner. I think . . . he undertook the duty towards both parties of holding the scales even and deciding between them impartially as to the amount payable by the one to the other. I cannot think . . . that the plaintiff's duty was only to protect the interests of the building owner; in other words, to cause the building owner to pay to the builder as little as possible for his work."

Careful observation of the above, and the principles underlving the Case Law, would go far to help those embarking on building enterprises to do so under good auspices.

It is within the knowledge of all that a new form of contract has recently been settled, of which it has already been said, that it is fair to both contractor and building owner alike. That it has been framed so wide, that it will be used in all building, engineering and municipal contracts, and that it provides for the settlement of disputes in a practical manner. This may give every hope that contracts for building work may be carried through to a satisfactory completion, in an atmosphere of mutual confidence between the contracting parties.

[See article on page 145.]

Appeal for Selby Abbey.

An urgent appeal is being made for £20,000 to save Selby Abbey, Yorkshire. It was founded in 1069 by William the Conqueror. We learn that nothing is received from the State, either directly or indirectly, for the upkeep of the Abbey or the maintenance of its services.

THE BUILDING TRADE

CHIMNEY TROUBLES—II

BY FREDK. W. DYE.

Grate Chimneys.

As already stated, with kitchen-range chimneys draught is due to the air or gases in them being of a higher temperature than the air outside (or of the room they lead from), and the strength of the draught is according to the difference in temperature. Under correct conditions the draught of a brick-built chimney should be always good As with the range, if too much cold or cool air passes into a chimney the draught is slackened, while, with a grate, there may also be insufficient air pass near the fire to carry away the smoke in a proper manner.

THE DOG GRATE.—The greatest sufferer in the foregoing respect is the dog-grate, a fire-basket stood in a clear tiled opening, as fig. 3. The cool air of the room has a clear passage up the chimney; there is little or nothing to induce or guide the smoke upwards, and consequently a certain amount of smoke may ooze out into the room. The remedy when needed is a "blower," extending across the front of the opening, from side to side, where marked * *. The correct depth is found by temporarily fixing across a strip of paper, or floorcloth, a depth of 5 in. or 6 in. being commonly necessary. The blower serves to make the air pass nearer to the fire, and is usually made of brass or leaded glass.

FIG. 3.

Modern grates are designed with the greatest possible height between the fire and the canopy up which the smoke passes to the chimney. The conditions approach those of the dog-grate, just explained, and the greater the distance the greater the effectiveness as regards heat distribution. With such grates the chimney draught must be normally good or a little of the smoke is apt to miss the canopy up which it should all pass, the room then getting a slightly smoky atmosphere or taint. This condition is due to an insufficient air supply to the room.

INSUFFICIENT AIR SUPPLY.—Needless to say, the normally effective draught of a chimney, while created by a difference in temperature, cannot function if the supply of air is deficient. The amount of air passing up a chimney corresponds with an amount entering the room, and if the latter is insufficient the draught must fail to that extent. A grate needing a reasonably good draught will then possibly "smoke." It may be that the joinery, windows and door are exceptionally close fitting, or the householder may have made the crevices more or less air-tight by draught tubing. In any case, instances have been experienced of grates smoking when windows and door are closed, yet working well with window or door opened a little, and in all such cases a remedy has been found in providing inlet ventilation to the room. For this purpose gratings are productive of cold draughts to the occupants of rooms, and the most agreeable inlet ventilator is the well-known Tobin's tube.

"DOWN BLOW."—This trouble is caused by the wind being deflected down on to the chimney at top and driving into and down the chimney. The effect is a burst of smoke from the grate into the room. The cause is to be found in the fact that the chimney

FIG. 4.

does not extend up to a sufficient height above its surroundings. Speaking generally, the lower the chimney ends, compared to its surroundings, the worse the down-blow can be. This trouble is readily diagnosed by its occurring only when the wind blows from some certain direction, the grate probably acting normally with other winds or when the air is still.

The chimneys of houses extend up from about 5 ft. to 6 ft. above the highest roof ridge solely to ensure that the proper draught activity is not adversely affected by winds. But if an adjacent building—or trees—should be higher, then down-blow is commonly experienced with certain winds. The action has been studied to a considerable extent, and while it used to be thought that the wind coming over the higher buildings was

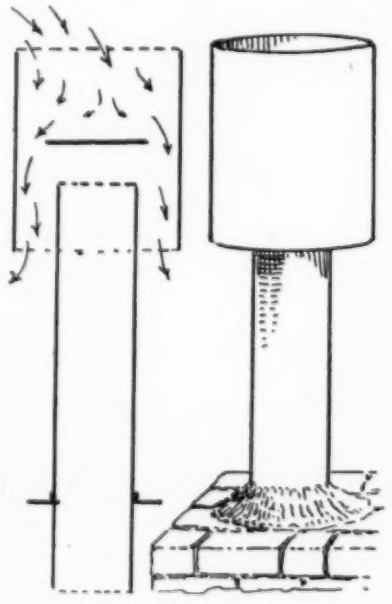

FIG. 5.

the sole cause of the trouble, it is now known that wind blowing towards the higher object can have a similar effect. Fig. 4 gives an idea of this.

A remedy lies in extending up the chimney by brickwork or tall-boy, if it is possible to carry it high enough; or failing this, one of the several special "chimney tops" or down-blow preventers must be resorted to. An old shop-made design of chimney top finding considerable favour and success has a section as fig. 5. It is made of zinc or copper, and consists of a pipe, the lower end of which fits into the chimney. The upper end has an outer pipe or case which carries a circular flat plate inside it of a little larger size than the inner pipe. When the wind drives down the top of the outer case it is prevented from entering the inner pipe by the round plate. The arrows suggest what happens.

SYPHONAGE.—This is most likely to happen in a room having two fireplaces (with usual chimney to each, as in some large drawing-rooms), but it also happens in flats and the upper rooms of some tall narrow houses. The cause is alike in all. It is brought about by a deficiency in air supply, and might have been included under that heading, except that the action entitles it to different considerations.

In one instance two adjacent rooms each possessed a fire-grate, but there were large folding doors in the dividing wall which were always kept open. This made the rooms equivalent to one long room with two grates and chimneys. The joinery was well fitting, and, with doors and windows closed, one chimney secured a sufficient air supply by drawing it down the other. The air supply was not enough for two. Only one fire could be used, while the air of the room, coming chiefly by way of the other chimney, was tainted. The action was easily discerned by burning some smoky paper in the idle grate and watching the travel of the smoke; it was found that opening a window near to the effective fire gave it all the air it needed, leaving the other chimney to act normally. A remedy was found in providing inlet ventilation by Tobin's tube, it being found possible to fit this between the fireplaces.

The average residence owes its air supply—its inlet ventilation—in winter, to crevices around doors and windows, sometimes through joints in floor boards. The air coming through crevices around windows comes directly from out of doors, but that coming by the room doors comes chiefly, perhaps wholly, from around the entrance door of the house which may be some distance away. In flats or suites of rooms, if the windows fit well, most of the air comes by way of the entrance door, which may be at a distance from the main entrance. The result in some cases is a deficient air supply to the rooms of the flat, and one chimney finds it can get its air from another, or others, even though not in the same room. The effect is not so readily noticeable as when two chimneys lead from one room, it possibly being more of a general sluggishness or failure of one or more chimneys while others act well.

This result is sometimes noticeable in the rooms forming the upper floors of high narrow buildings, the cause being the same, and unless this action is understood, it usually follows that any downward movement of air in a chimney is attributed to "down-blow," and some kind of chimney top is resorted to, and fails. The remedy is inlet ventilation, and when the cause is suspected it is, as a rule, easily proved by opening windows. The window in the room where the chimney acts well is the best test, as it should stop the chimney from drawing on the others; and if this proves to be so, it is the best place for an inlet ventilator.

Somerset County Offices, Taunton.

At a meeting of the Somerset County Council at Taunton, it was decided to transfer the County Offices from Weston-super-Mare to Taunton, where plans for a new block of offices and a Court Hall have been prepared by the County Architect. The estimated cost is £87,486.

EVERYDAY SCIENCE FOR ARCHITECTS AND BUILDERS—II

By A. M. GILES, B.Sc., A.I.Struct.E., A.M.I.E.E., *Author of "Mechanics in Daily Life," etc., Lecturer in Building Science, Structural Mechanics, Graphical Statics, etc., at the Northern Polytechnic School of Architecture and Building.*

DIAGRAMS AND ILLUSTRATIONS BY M. R. DUMVILLE.

Liquids.

DENSITY or specific gravity is a property of a liquid, which may be of great use to the painter or decorator, particularly if he should wish to test the purity of his supply of turpentine or linseed oil. When buying or selling turpentine or linseed oil reference should always be made to the specific gravity of the sample. Now the density or specific gravity of a liquid may be determined quite readily by a direct method, or by means of a hydrometer.

1. By a direct method.

Take an ordinary glass bottle which will contain rather more than a half-pint. Stick a piece of stamp-edging on the outside to

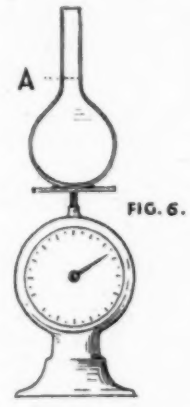

FIG. 6.

mark the level for exactly a half-pint (say at level *A*, Fig. 6).

Next find its weight by placing it on the table of an ordinary Post Office balance. Then pour into the flask a half-pint of the liquid whose density is required. Note the increased weight. This will be the weight of the half-pint of the liquid.

A half-pint contains 17.3 cu. in. Therefore, having found the weight of a half-pint or 17.3 cu. in. of the liquid, it is quite easy to find the weight of 1,728 cu. in. or 1 cu. ft., and this is the density of the liquid. Its specific gravity can then be determined by dividing its density by 62.5, which is the weight in pounds of one cu. ft. of water.

The specific gravity of the liquid can be found without first finding its density, since we can divide the weight of the half-pint of the liquid by the weight of a half-pint of water, which is 10 ounces, *e.g.*, suppose the weight of the liquid is 9 ounces, then its specific gravity is equal to 9 divided by 10, which is 0.9.

(Note.—It is useful to remember that for approximate calculations we may take 50 pints as being equal to a cubic foot.)

We will now give the results of an actual experiment.

Weight of the bottle	= 6 ozs.
Weight of the bottle and a half-pint of turpentine	= 14.75 ozs.
Therefore the weight of a half-pint of turpentine	= 8.75 ozs.
Since the weight of a half-pint of water	= 10 ozs.
Therefore the specific gravity of turpentine	= *0.875*
The weight of a half-pint of turpentine	= 8.75 ozs.
Therefore the weight of a cu. ft. of turpentine	= 8.75 × 100
	= 875 ozs.
	= *54.7* lbs.

Therefore the density of turpentine = 54.7 lbs. per cu. ft.

2. By the Hydrometer.

This method is really an application of the "Principle of Archimedes." The hydrometer is a piece of apparatus in very common use, and it is able to give very accurately the specific gravity of a liquid. By the Principle of Archimedes (see last week's issue) we know that when a body is immersed in liquid it loses weight equal to the weight of the liquid displaced. Therefore, if a body floats in a liquid it must lose all its weight, that is, the amount of liquid displaced by the part of the body that is below the surface of the liquid must weigh the same as the body. This is sometimes called the "Principle of Flotation." The body we use for floating in the liquid is called the hydrometer (see Fig. 7).

It is arranged to float vertically in the liquid by placing in the bottom bulb either some lead shot or some mercury. A scale which has been correctly calibrated is enclosed in the narrow part of the stem.

Suppose we place the hydrometer in water as shown in Fig. 7, and suppose it comes to rest, after bobbing up and down, with a certain mark on the scale at the water level.

Next suppose we place it in a liquid heavier than water, *i.e.*, one of greater specific gravity, the hydrometer will not sink as deep as it does in water. In just the same way a ship rides higher out of the water at sea than it does in the fresh water of a river because the sea water has a greater specific gravity.

Again, let us place the hydrometer in a liquid which is lighter than water, such as turpentine, then it will sink lower in this liquid than it does in water. From these suggestions we should now be able to see why it is possible to use an instrument of this kind for finding the specific gravity of a liquid.

The weight of the hydrometer does not change, and no matter in what liquid we float it, it must always displace its own weight of that liquid, and since liquids have different specific gravities, it means that the volumes displaced cannot be the same, and therefore the hydrometer will sink to different depths in different liquids.

Suppose now that the hydrometer is so weighted that, when it is in water, it floats with the middle of its scale at the top of the water, we could then mark this point on the scale with the figure 1, since the specific gravity of water is 1.

Marks on the scale above the middle point would be less than 1, since, if the hydrometer be placed in a liquid of less specific gravity, it would float deeper. In a similar manner and by similar reasoning, the marks below the middle of the scale would be greater than 1. Therefore the hydrometer

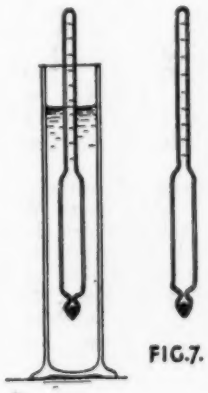

FIG. 7.

could be used for finding the specific gravity of any liquid.

It was found, however, that for a single hydrometer to give accurate readings for all specific gravities, it would be a very cumbersome affair. There are available, therefore, two sets of hydrometers, viz.: (*a*) Those for liquids having specific gravities less than water, (*b*) those for liquids having specific gravities greater than water. In Fig. 7 the hydrometer is floating in turpentine and the reading is 0.873.

Lactometer.

This is another name for a hydrometer. It is carried by milk inspectors, and, as its name suggests, it is used for testing the specific gravity of milk.

Powders.

The manufacturer of lime or cement carries out in his laboratory many tests of the properties of these powders. The buyer also should be in a position of conducting particular tests, and the one we are most concerned with here is the specific gravity test.

It is easy enough to weigh out a half-pound or a pound of cement, but it is not as easy to find out what its volume is, even

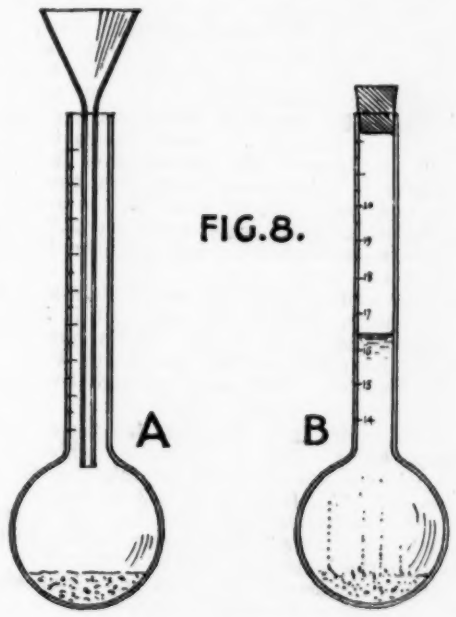

FIG. 8.

if you pour it into a cylinder graduated in cubic inches. The difficulty arises from the fact that it all depends upon how tightly the particles of cement are packed together. The little inter-particle spaces known as voids give rise to difficulties in finding the volume of any known weight of cement.

Blount's Volumeter.

This piece of apparatus, illustrated in Fig. 8, helps us to get over the difficulty of finding the volume of a powder-like cement. It consists of a glass flask with a longish narrow neck upon which the graduation marks are shown. From these we can read off quite easily the volume of anything in the flask so long as its level comes above the first graduation mark. The number "14" means that up to that mark the volume is 34 cu. in., the "15" mark means 35 cu. in., and so on.

Experiment.

Weigh out about 1¾ lb. of cement, and place it very carefully in the bulb of the volumeter. This can be done by working it down a very dry and clean long-necked funnel (see Fig. 8A).

(We could, of course, get the weight of cement in the volumeter by first weighing the volumeter, then introducing the cement, and then weighing again, the difference in the weighings giving the weight of the cement.) Next add carefully exactly 20 cu. in. of turpentine.

(Note.—The liquid used must be one that

has no effect upon the cement, *e.g.*, we could not use water.)

Then, after putting in the stopper, shake it until all the air particles have been removed from the cement. Allow it to stand for a time, and then take the reading of the level of the turpentine.

The actual reading was 16.4 cu. in. (see Fig. 8B). This means that in the flask there is a volume of turpentine and cement of 36.4 cu. in., but of this, 20 cu. in. is the volume of the turpentine, therefore the volume of the cement particles is 16.4 cu. in., and this is the number read off on the scale on the neck of the volumeter. Therefore 16.4 cu. in. of cement weigh 1.75 lb., and therefore 1,728 cu. in. (or 1 cu. ft.) weigh

$$\frac{1.75 \times 1{,}728}{16.4} \text{ lbs.}$$
$$= 184.4 \text{ lbs.}$$

Therefore the density of the cement grains = 184.4 lbs. per cu. ft.,

and the specific gravity will be 184.4 divided by 62.5 which is 2.95. From tables we find that the specific gravity of cement particles is 3, while the density of cement in bulk is about 90 lbs. per cu. ft.

Metric System.

We will conclude this article with a few words about the metric system of units. So far we have used entirely the British system of units, viz. : pounds and ounces for weight, and cubic feet and cubic inches for volume.

Beside the fact that, in the metric system, tables of weights and measures go in tens and multiples of ten, which makes for simplicity in calculation, there is a most important point, viz. : " That there is a direct relation between mass and volume." We have no such direct relation in the British system.

The unit of length in the metric system is the metre, and we are told that it is one ten-millionth part of the earth's quadrant, *i.e.*, the distance from the North Pole to the Equator, which passes through Dunkirk.

1 metre = 39.37 in.

The metre is divided into ten parts, each part being called a decimetre, which for rough approximation may be taken as being equal to 4 in. (actually it is 3.937 in.).

The decimetre is divided into ten parts, each being called a centimetre, which really means the hundredth part of a metre.

One thousand metres = one kilometre (about five-eighths of a mile).

Below are a few of the well-known relations between the two systems.

1 in. = 2.54 centimetres, 1 sq. in. = 6.45 sq. cms.

1 cu. in. = 16.38 cubic centimetres (c.c.).

1,000 cu. centimetres or 1 cu. decimetre is a litre and is equal to 1.76 pints.

A litre of distilled water at 4 deg. C. weighs 1 kilogramme or 1,000 grammes, and

A kilogramme = 2.2046 lbs.

A metric tonne = 1,000 kilogrammes = 2204.6 lbs.

A British ton = 2,240 lbs.

Building Wages Reduction.

Wages in the building industry will be reduced by one halfpenny an hour from February 1. The reduction is in accordance with the sliding scale, based on the cost of living figures, of the National Joint Council for the building industry, and affects the rates of wages payable to craftsmen and labourers, provided always that the rates payable to labourers are not less than 75 per cent. of the craftsmen's rates.

We learn, however, that the National Association of Plasterers, Granolithic, and Cement Workers states that it is not a party to the agreement set up by the National Joint Council for the Building Industry, that it is not affiliated to the National Federation of Building Trades Operatives, and that it does not recognise the sliding scale agreement.

NEW BUILDINGS IN LONDON

Adam-street. — RECONSTRUCTION. — No. 1, Adam-street, W.C.2, is being extensively reconstructed in order to provide offices on the ground floor with flats on the upper floors. The plans have been prepared by Messrs. Hayward & Maynard, 14, John-street, W.C.2, and the builders are Messrs. Bovis, Ltd., 43, Upper Berkeley-street, W.1.

Bethnal Green.—CHAPEL.—Tenders for the erection of a chapel in the grounds of Bethnal Green Hospital, Cambridge-road, London, E.2, for the Board of Guardians, are now being invited.

Camberwell. — GARAGES. — Plans for the erection of garages at the rear of 54-62, Queen's-road, Camberwell, have been submitted to the Borough Council by Messrs. Dowton & Co., architects, of 166, Rye-lane, for approval.

Camberwell. — REBUILDING. — Mr. W. G. Ingram, architect, 4, Verulam Buildings, Gray's Inn-square, W.C.1, has submitted application to Camberwell Borough Council for the rebuilding of the " Crown " public house, 24, Wells-street, S.E

Camden Town. — ALTERATIONS. — The Aerated Bread Co., Ltd., have given instructions for the preparation of plans for alterations and extensions of their head bakeries and stores at Camden Town, N.W.1, following the absorption of J.P. Restaurants, Ltd. The architect is Mr. Theophile Shaerer, 11, Dawe-street, Westminster, S.W.1.

Cheapside. — REDECORATING. — Mr. Frank Durrant, F.A.I., 114, Cheapside, E.C.2, has sold 101, Cheapside, E.C.2. The new owners intend to carry out extensive structural work and redecorations. The architect is Mr. Dan Warry, 2, Basinghall-avenue, E.C.2. The builder is Mr. F. W. Dean, 36, Upper Baker-street, N.W.1.

Covent Garden. — IMPROVEMENTS. — The Beecham Estates are carrying out considerable improvements and renovations to their Covent Garden Market, W.C.2. The contractors are Messrs. Vigor & Co. (Poplar), Ltd., 15, King-street, E.14. The work is being supervised by Messrs. Hood Bros., 18. Union-court, E.C.2.

Crouch End.—ADDITIONS.—Messrs. Courage & Co., Ltd., brewers, Horsleydown, S.E.1. propose to make extensive alterations and additions to their " Maynard Arms " public house, to the plans of their surveyor, Mr. Kirby. The builders are Messrs. Stevens & Sons, Crouch Hill, N.4.

Deptford. — ADDITIONS. — The Deptford Borough Council are proposing to purchase extra land for additions to the site for the Evelyn Baths.

Edmonton.—TRACK.—The Tottenham Greyhound Racecourse, Ltd., have submitted plans for the construction of a racing track providing stand, etc., accommodation for 75,000 persons. The architect is Mr. G. E. Marshall, 11, John-street, Bedford-row, W.C.1.

Fetter-lane.—DEMOLITION.—No. 40, Fetter-lane, E.C.4, is being pulled down by Mr. Frederick Wise, 146, Dalston-lane, E.8, prior to the development of the site for future building. The architect is Mr. J. T. Lawrence, 28, Great Ormond-street, W.C.1.

Hampstead.—FLATS.—A large block of residential flats is to be built in Hill Top, at the Hampstead Garden Suburb, N.W., for Messrs. Oakwood Tenants, Ltd. The builders are Messrs. Garsubil, Ltd., 5, Temple Fortune-avenue, N.W.11. The plans have been prepared by Mr. C. G. Butler, A.R.I.B.A., 12a, North End-road, Golders Green, N.W.

Kentish Town.—REBUILDING.—Messrs. H. Sabey & Co., Ltd., South Wharf, Paddington, W., are pulling down the old Church of St. Benet and All Saints in Lupton-street, N.W., prior to rebuilding to the designs of Messrs. Bodley & Hare, 11, Gray's Inn-square, W.C.1. The builders will be Messrs. W. Downs, Ltd., Hampton-street, S.E.17.

Lewisham.—HOUSES.—Messrs. W. Wilmot, Ltd., builders, are to erect 26 houses in Boveney-road, Lewisham.

Lewisham.—ADDITIONS.—Messrs. Frank Matcham & Co., architects, Warwick-court, W.C., have submitted application to Lewisham Borough Council for additions to Stanstead Picture Theatre, Wastdale-road.

Oxford-street.—ADAPTATION.—The Aerated Bread Co., Ltd., Camden Town, N.W.1, have acquired premises at 233, Oxford-street, W.1, for adaptation as a branch restaurant. The contractors are the Imperial Shopfitting Co., 72, Golden-lane, E.C.1.

Piccadilly.—Demolition will shortly be commenced by Messrs. H. Sabey & Co., Ltd., South Wharf, Paddington, in connection with the third section of the rebuilding scheme of Messrs. Fortnum & Masons, Ltd. The builders will be Messrs. Foster & Dicksee, Ltd., London and Rugby. The architects are Messrs. Wimperis, Simpson & Guthrie, FF.R.I.B.A., 61, South Molton-street, W.1.

Piccadilly-circus.—REBUILDING.—The south-west corner of Piccadilly-circus, W.1, comprising buildings in Piccadilly, Regent-street, and Jermyn-street, is to be pulled down and rebuilt, the main architectural features of the new buildings conforming to the general design prepared by Sir Reginald Blomfield, R.A. The largest portion of the rebuilding will be undertaken by Mr. W. Henry White, F.R.I.B.A., 14a, Cavendish-place, W.1, comprising Nos. 215, 216 and 217, Piccadilly, 33, 35 and 37, Regent-street, and 16 and 17, Jermyn-street, occupying the apex of the site. The plans for the new premises at Nos. 29 and 31, Regent-street, have been prepared by Messrs. Yates, Cook & Darbyshire, 43, Great Marlborough-street, W.1; whilst the rebuilding of Nos. 27, Regent-street, and 14 and 15, Jermyn-street, including the corner premises of Messrs. Barclays Bank, Ltd., has been designed by Messrs. Edmeston & Gabriel, 42, Old Broad-street, E.C.2.

Petersham.—FACTORIES.—Messrs. Gaze, of Kingston-on-Thames, have secured a contract to erect factories at Ham for Messrs. The Cellon (Richmond), Ltd. The architects are Messrs. Bishop & Etherington Smith.

Poplar.—MESSROOM.—Erection of a nurses' messroom at the St. Andrew's Hospital, Bromley-by-Bow, for the Poplar Board of Guardians, has been sanctioned, and tenders are being invited. Mr. Harley Heckford, architect, Council Offices.

Richmond.—ALTERATIONS.—Premises in the Quadrant have been purchased by Messrs. Williamsons, Ltd., grocers, Trinity Warehouse, Savage-gardens, E.C., for opening, after extensive structural alterations, as a branch shop and showrooms. Plans have been prepared by Messrs. Parr & Son, New Broad-street House, E.C.2.

Southwark.—WAREHOUSE.—Messrs. H. J. Greenham, Ltd., Worton-road, Isleworth, have commenced demolition and excavation work upon the site of the old Power Station in Lant-street, S.E.1, where Messrs. Oxo, Ltd., Queen-street-place, E.C.4, propose to build a large riverside warehouse. The plans have been prepared by Mr. A. W. Moore, F.R.I.B.A., 124, Fenchurch-street, E.C.3.

Stepney.—WELLS.—Tenders for the construction of wells, caissons in River Thames, circulating water tubes, etc., at Limehouse Electricity Generating Station, Narrow-street, E., for the Stepney Borough Council are being invited. Mr. Bernard J. Belsher, Borough Engineer, Municipal Offices, Raine-street, E.1.

Stratford.—OFFICES.—The "Angel" public-house in Stratford Broadway, E.15, has been bought by Messrs. Prices (Tailors), Ltd., 55, Vicar's-lane, Leeds, who intend to build five large shops with offices on the upper floors.

Vincent-square.—HOSTEL.—The contract for the students' hostel in St. Vincent's-square, S.W.1, for the University of London (King's College), has been placed with Messrs. Gee, Walker & Slater, 56, Pall Mall, S.W.1. The architect is Mr. A. C. Martin, F.R.I.B.A., 9, New-square, Lincoln's Inn, W.C.

POINTS IN CONNECTION WITH THE LAW OF LANDLORD AND TENANT—XIII.

In our last article we were considering covenants in tenancy agreements which served to impose upon tenants statutory duties in relation to the abatement of sanitary defects on the premises, but before passing to consider the cases relating to the effect of covenants in respect of liabilities imposed as to making up new streets we will refer to one or two cases where the effect of covenants had to be considered in relation to duties undertaken either in negotiation before the lease was entered into or by covenant in the lease by the landlord.

Covenants Considered in Relation to Obligations Undertaken by the Landlord.

In Henman *v.* Berliner (1918, 2 K.B. 236; *The Builder*, June 21, 1918) the defendant had entered into negotiations with the plaintiff for a lease of the latter's house, and it was made a condition of the defendant's taking the lease that the drains of the house should be put into sound condition by the plaintiff, the landlord. The lease contained a covenant by which the defendant, the tenant, was to pay all "outgoings" in respect of the premises and to keep them in repair. The lease was entered into about the year 1909, and in 1916 a case of diphtheria occurred in the house, and an order was served under the Public Health (London) Act, 1891, on the landlord requiring him to remedy a nuisance from defective drainage on the premises. He incurred an expenditure of £130, and sought to recover this from the tenant. It was proved in this case that the defendant would never have accepted the lease except on the understanding that the drains should be put in order, and that the plaintiff had done nothing to them. The plaintiff sued the tenant to recover the sum expended under the above order, but it was held by the Court that the covenant to pay outgoings did not apply to a payment for work rendered necessary by the plaintiff's failure to put the drains in order in accordance with his agreement. Then as regards the covenant to repair by the tenant, it was held this did not apply to the drains in these circumstances until they had been put into repair by the landlord under his agreement. Where a lessor had covenanted "to keep the exterior of the dwelling-house and buildings in repair," and the tenant was under covenant "to pay and discharge all assessments, charges and outgoings whatsoever which now or during the said term shall be imposed or charged upon the premises or the landlord or tenant in respect thereof," and the lessor, in consequence of a notice from the sanitary authority had to do certain work involving the renewal and reconstruction of the drainage system outside the house, it was held by a Divisional Court this outlay fell upon the lessor, the landlord (Howe *v.* Botwood, 1913, 2 K.B. 387; *The Builder*, May 2, 1913). In this case the landlord was seeking to recover the cost of the work so far as it exceeded mere repair, but the Court held that the tenant's covenant must be read as being subject to the performance by the landlord of his covenant, and as the work of renewal and reconstruction was necessary for the performance of the latter's covenant the landlord was bound to bear the cost. But where a lessee covenanted to repair the premises and also to pay assessments, charges or impositions assessed or imposed upon the premises or on the lessor in respect of the premises, and owing to lack of repair by the lessee a drain became defective and an order was made on the lessor under the Public Health (London) Act, 1891, to repair, it was held that under the covenant to pay the above charges the sum paid by the lessor to make good the defect could be recovered by him from the lessee (Smith *v.* Robinson, 1893, 2 Q.B. 53). In this case it was argued that simple repairs executed to abate a nuisance on the premises which there would be a common law duty to abate and which were covered by the repairing covenant, stood on a different basis from works of reconstruction ordered by the sanitary authority, but the Divisional Court held that there was no such distinction to be drawn as the whole matter was statutory arising out of the exercise of control by the sanitary authority under statutory powers.

We have now to consider the effect of covenants in relation to

Charges for Making-up Streets.

It is not necessary to go into many authorities in connection with this subject as the recent decision of the Court of Appeal in Lowther *v.* Clifford (1927, 1 K.B. 130; *The Builder*, May 23, 1926) applies many of the cases we have referred to with reference to charges arising under other statutes in connection with sanitary matters. In that case the plaintiffs were the owners of nine acres of land which abutted on a lane not taken over by the local authority until 1924. The plaintiff's predecessors in title had granted to the defendant a lease under seal of this land for a term of seven years from September 29, 1884, at an annual rent of £46 5s. This lease contained a covenant that the tenant should pay "during the term all taxes, rates, tithes, assessments, impositions, and outgoings now payable or hereafter to become payable by or be imposed upon either the landlord or tenant in respect of the premises. . . ."

After the expiration of the term the tenant had held over paying the same rent and had ever since continued in occupation as a tenant from year to year. In or about the year 1924, the Urban District Council, acting under the Private Street Works Act, 1892, had made up the lane on which the land abutted, and on October 24, 1924, a demand had been made upon the plaintiffs to pay the apportioned expenses, which amounted to £188 2s. 9d., with interest thereon, and in December the plaintiffs had paid that sum with interest, and in this action were seeking to recover the sums paid from the defendant. The defendant, amongst other defences, contended that this covenant, even if the words used applied to a charge of this kind, did not apply to a tenant holding over as a tenant from year to year, because (*a*) it was not suitable or conformable with such tenancy, and (*b*) it was not in the contemplation of the parties, either when the lease was entered into in 1885, or when the tenancy from year to year began in 1891, as there was no building upon the land, which was used as a market garden: the lane fulfilled all the requirements of the defendant, and the sum claimed was disproportionate to the rent paid and the character of the holding. It was found as a fact, in the Court below, that the surrounding estate of the plaintiffs was suitable for building purposes.

The Court of Appeal held that when a tenant holds over as a tenant from year to year he holds upon the terms of the agreement or lease, which are not inconsistent with a tenancy from year to year (1851, Hyatt *v.* Griffiths (17 Q.B. 505), and Dougal *v.* McCarthy, 1893, 1 Q.B. 736); (as to this, see our fourth article), and there was no inconsistency in attaching such a covenant to a tenancy from year to year; that the words used, "impositions" and "outgoings" (Lord Justice Scrutton also suggested the word "assessments") covered the nature of the claim here, and that the case fell within the principle laid down in Foulger *v.* Arding (1902, 1 K.B.700; *The Builder*, March 22, 1902), and Stockdale *v.* Ascherberg (1904, 1 K.B. 447); that where a tenant enters into an agreement in perfectly clear and unambiguous terms that he will bear all outgoings or other charges, the plain meaning of the language cannot be thrown aside and some limitation on the language be introduced, the meaning of which it would be impossible to define. (See our twelfth article on these cases.)

The Court of Appeal overruled Valpy *v.* St. Leonards Wharf Co. (1903, 67 J.P. 402) and Harris *v.* Hickman (1904, 1 K.B. 13; *The Builder*, November 21, 1904). In Lowther *v.* Clifford it was also contended that as the land was a market garden and under the Agricultural Holdings Act, 1923, the only remedy would be by arbitration under that Act, but this was negatived. In the above case the claim arose out of works done under the Private Street Works Act, 1892, but in Greaves *v.* Whitmarsh (1906, 2 K.B. 340) it was held by a Divisional Court that under a covenant to pay "all outgoings now payable or hereafter to become payable in respect of the premises" the lessee was liable for the costs incurred in making up a street under section 150 of the Public Health Act, 1875.

The only question which remains to be considered in connection with street works under either the Public Health Acts or the Private Street Works Act is, when does liability attach? This question was decided by the Court of Appeal in Surtees *v.* Woodhouse (1903, 1 K.B. 396; *The Builder*, February 21, 1903).

In 1891 certain premises had been demised to the plaintiff in this action, for a term of seven years, under a lease which provided that the lessee should "pay and bear all present and future rates, taxes, duties, assessments and outgoings charged upon the premises or the owner or occupier in respect thereof." By a supplemental lease the term was extended to 21 years in 1892. In November, 1899, the premises had been sub-demised to the defendant, the above leases being recited and the sub-demise being subject to all the conditions contained in those leases.

This sub-demise was dated November 30, 1899. In September of that year the local authority, acting under the Private Street Works Act, 1892, were executing certain street works on the street upon which the premises abutted. The works were completed on October 7, and the final apportionment had been made on December 11. That is to say, the works were completed before the date of the sub-demise, but the final apportionment had been made after that date. The plaintiff had paid the sum due under the final apportionment, £60, to her landlord, but was seeking to recover the same from her immediate tenant.

In the Court of Appeal the defendant was treated as being in exactly the same position as if he were the lessee under the original lease, and it was held, following a decision, Stock *v.* Meaking (1900, 1 Ch. 683), a case between vendor and purchaser, that the expenses incurred in the works had become a charge upon the premises on the completion of the works, although they were not payable until after that date, that is to say, they were charged on the premises before the date of the sub-demise, and the sub-lessee was not liable.

This decision would apply equally to a case under the Public Health Act, 1875, for *in re* Allen and Driscoll's Contract (1904, 2 Ch. 226; *The Builder*, July 2, 1904) the Court of Appeal followed Stock *v.* Meaking (also a decision of the Court of Appeal under the Private Street Works Act), holding that under the Public Health Act, 1875, the expenses incurred for street works become a charge upon the premises from the date on which they are completed.

We dealt with this question very fully and cited other cases in our eighth article on Making-up New and Private Streets, October 1, 1926.

Greyhound Track at Reading.

Mr. Donald J. Moss, A.R.I.B.A., M.I.Struct.E., of 6, Queen Anne's-gate, S.W.1, is to be the architect of a new greyhound racing track at Reading.

RATES OF WAGES IN THE BUILDING TRADE

[Every endeavour is made to ensure accuracy but we cannot be responsible for errors.]

	Masons	Brick-layers.	Car-penters Joiners	Plas-terers.	Slaters.	Plum-bers.	Pain-ters.	Lab-ourers.
Aberdare	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Accrington	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Alfreton	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Alnwick	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Altrincham	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Ashford (Kent)	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Ashington	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Ashton-under-Lyne	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Aylesbury	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Aylsham	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Banbury	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Barnsley	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Barnstaple	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Barrow-in-Furness	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Barry	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Basingstoke	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Bath	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Bedford	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Berwick	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Bexhill	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/1
Birkenhead	1/10	1/10	1/10	1/11	1/10	1/10	1/9½	1/4½
Birmingham	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Bishop Auckland	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Blackburn	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Blackpool	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Bolton	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Bournemouth	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Bradford	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Bradford-on-Avon	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/3½	1/0½
Braintree	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Brentwood	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Bridgwater	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/1
Bridlington	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Brighton	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Bristol	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Bromsgrove	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Bromyard	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0½
Bungay	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Burnley	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Burton-on-Trent	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Bury	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Buxton	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Cambridge	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Canterbury	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Cardiff	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Carlisle	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Chatham	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Chelmsford	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Cheltenham	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Chester	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Chesterfield	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Chorley	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Cirencester	1/5	1/5	1/5	1/5	1/5	1/5	1/4	1/1
Clacton	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Colchester	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Coventry	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Cranbrook	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Crewe	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Cromer	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Darlington	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Deal	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Denbigh	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Derby	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Devizes	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/3½	1/0½
Dewsbury	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Doncaster	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Dorchester	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/3½	1/0½
Dorking	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Dovercourt	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/1
Driffield	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Droitwich	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Dudley	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Durham	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Eastbourne	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
E. Glam.(Mon.Val.)	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Ely	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Exeter	1/7	1/7	1/7	1/7	1/7	1/7	1/6	1/2½
Exmouth	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/1
Fakenham	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Felixstowe	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Folkestone	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/1
Frome	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/3½	1/0½
Glossop	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Gloucester	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/5½	1/2
Godalming	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/1
Goole	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Gosport	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Grantham	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Great Yarmouth	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Grimsby	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Guildford	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Halifax	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Harpenden	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Harrogate	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Hartlepools	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Harwich	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/1
Hastings	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Hatfield	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Hednesford	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Hereford	1/6	1/6	1/6	1/6	1/6	1/6	1/5	1/1½
Herne Bay	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Hertford	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Hitchin	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Hoddesdon	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Holt	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Huddersfield	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Hull	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Hunstanton	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Huntingdon	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/1
Isle of Wight	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0½
Ipswich	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Keighley	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Kettering	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Kidderminster	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
King's Lynn	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/1
Lancaster	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Leamington Spa	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Leeds	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Leicester	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Leighton Buzzard	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Lichfield	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Lincoln	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Littlehampton	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/1
Liverpool	1/10	1/10	1/10	1/11	1/10	1/10	1/9½	1/4½
Llandudno	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Llanelly	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
London:								
12 m. radius	1/9½	1/9½	1/9½	1/9½	1/9½	1/9½	1/8½	1/4½
12–15 m. radius	1/9	1/9	1/9	1/9	1/9	1/9	1/8	1/4
Loughborough	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Lowestoft	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Luton	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Macclesfield	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Maidstone	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Malvern	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Manchester	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Mansfield	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Margate	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Market Harb'rough	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Matlock	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Melton Constable	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Melton Mowbray	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Merthyr Tydfil	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Middlesbrough	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Newark	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Newbury	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Newcastle-on-Tyne	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Newcastle-ur-Lyme	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
New Forest	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/1
Newmarket	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/1
Newport, Mon.	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Northampton	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Norwich	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Nottingham	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Nuneaton	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Oakham	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Oldham	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Oxford	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Paignton	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Peterborough	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Plymouth	1/8	1/8	1/8	1/8	1/8	1/8	1/7	1/3½
Pontypridd	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Portsmouth	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Preston	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Ramsgate	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Reading	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Redcar	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Redditch	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Reigate	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Retford	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Ripon	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Rochdale	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Rochester	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Rugby	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Saffron Walden	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
St. Albans	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
St. Helens	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Sawbridgeworth	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Saxmundham	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0½
Scarborough	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Sevenoaks	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Sheffield	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Shrewsbury	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Sittingbourne	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Southampton	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Southend-on-Sea	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Southport	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
South Shields	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Stevenage	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Stockport	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Stockton-on-Tees	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Stoke-on-Trent	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Stourbridge	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Stourport	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Stowmarket	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Stratford-on-Avon	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Stroud	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5	1/1½
Sunderland	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Swaffham	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Swansea	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Swindon	1/6	1/6	1/6	1/6	1/6	1/6	1/5	1/1½
Tamworth	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Taunton	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Thetford	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Torquay	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Totnes	1/5	1/5	1/5	1/5	1/5	1/5	1/4½	1/1
Trowbridge	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/3½	1/0½
Tunbridge Wells	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Uttoxeter	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Wakefield	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Walsall	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Wallsend	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Warminster	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/3½	1/0½
Warrington	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Warwick	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Wells (Norfolk)	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Welwyn. Gar. City	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
West Bromwich	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Weston-sup.-Mare	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Weymouth	1/5	1/5	1/5	1/5	1/5	1/5	1/4	1/1
Whitby	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Wigan	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Winchester	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/1
Windsor	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Wisbech	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Wolverhampton	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Woodbridge	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Worcester	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Worksop	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Worthing	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/1
Wrexham	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Wroxham	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Wymondham	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0½
York	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½

For rates of wages in the Building Trade in Scotland, see page 158.

THE THAMES FLOODS

SIR KINGSLEY WOOD, who, in the absence of Mr. Chamberlain, is in charge of the Ministry of Health, presided over a conference held this week at the Ministry of Health for the purpose of reviewing the situation resulting from the recent flood disaster in London. The conference was attended by the representatives of the Ministry of Health, Home Office, Board of Trade, Ministry of Agriculture and Fisheries, and the Ministry of Transport and of the London County Council, Port of London Authority, Thames Conservancy, City of London, and many of the riverside boroughs.

Mr. J. M. Gatti (Chairman of the L.C.C.), in the course of a statement on behalf of the County Council, said the only responsibility which devolved upon the London County Council in connection with floods caused by the overflowing of the River Thames was that imposed upon it by the Metropolis Management Thames River (Prevention of Floods) Amendment Act, 1879. Under this Act the Council might require owners of riverside premises to carry out to its satisfaction flood prevention works in accordance with plans prepared or approved by the Council. In the event of any such works not being carried out, the Council might itself execute them and recover the cost. No works could be commenced without the sanction of the Council.

The height of such works originally fixed by the Metropolitan Board of Works at 17 ft. 6 in. above datum line (equivalent to a tide of 5 ft. above Trinity high-water mark) was, in January, 1881, in consequence of a record tide, raised to 18 ft. The first point on which the public would wish to be satisfied was whether the London County Council, in the light of 45 years' further experience, was justified in considering that the height of 18 ft. fixed by its predecessors and confirmed in 1906 by Sir Maurice Fitzmaurice was not only adequate for the known facts but afforded a reasonable margin of safety for unforseen conditions. Until the recent disaster the tide never exceeded 17 ft. 6 in., and only reached this point on two occasions, namely, in 1881 and 1884, and only on two other occasions did it reach 17 ft. 3 in., the second of the latter occasions being as late as Boxing Day, 1927. The emergency works must necessarily take time, and until they were completed occupation of basements in low-lying areas adjacent to the river must be attended with danger at times of spring tides. In addition to these obvious breaks there might be defects which were not so apparent. The Council would institute a survey of the whole of the river defences so that any weaknesses which might have developed should be dealt with. Beyond this the most urgent need of the moment was a careful and thorough investigation of the nature and individual effect of each of the factors which combined to bring about the recent catastrophe.

The speaker said he would like to correct an erroneous impression which has been created by the fact that the Council issued an advertisement for tenders for the construction of an embankment wall on the up-river (Westminster) side of Lambeth Bridge. It had been assumed, perhaps not unnaturally, that this pointed to the need of reconstructing the existing embankment wall. As a fact, the tender was in no way connected with the existing flood prevention work, but was invited in anticipation of the Council obtaining possession of the land at this spot in connection with the building of the proposed new Lambeth Bridge.

Sir Kingsley Wood, in reply, said he thought that the step which the Conference could best take would be to set up a small sub-committee to which the suggestions made at the conference would be referred.

It was agreed that a further meeting of the conference should be summoned to consider the report of the sub-committee as soon as this was issued.

CONTRACTS, COMPETITIONS, &c.

For some contracts still open, but not included in this List, see previous issues. Those with an asterisk are advertised in this number. Certain conditions beyond those given in the following information are imposed in some cases, such as that advertisers do not bind themselves to accept the lowest or any tender; that a fair wages clause shall be observed, that no allowance will be made for tenders; and that deposits are returned on receipt of a bona-fide tender unless stated to the contrary.

The date given at the commencement of each paragraph is the latest date when the tender, or the names of those willing to submit tenders, may be sent in: the name and address at the end is the person from whom or place where quantities, forms of tender, etc., may be obtained.

Following is a list of abbreviations:—Borough Surveyor, B.S.; Borough Engineer, B.E.; District Surveyor, D.S.; Clerk, C.; Town Clerk, T.C.; County Engineer, C.E.; County Surveyor, C.S.; County Architect, C.A.; Surveyor, S.; Engineer, E.; Borough Architect, B.A.; Architect, A.

BUILDING, PAINTING, ELECTRIC LIGHTING, HEATING ETC.

Jan. 23.—**Batley.**—Houses.—30, on housing estate, off Bradford-rd., W., for T.C. H. L. Hall, B.E. and S., Brunswick-st.

✱Jan. 23.—**Brentford and Chiswick.**—Execution of Work and Supply of Stores.—For twelve months commencing April 1, 1928, for the U.D.C. Edward Willis, M.I.C.E., Engineer and Surveyor, Town Hall, Chiswick, W.4.

Jan. 23.—**Cambridge.**—New workshops and caretaker's house at the Central Schools, for the Corporation. Borough Engineer and Surveyor, The Guildhall, Cambridge. Dep. £2.

Jan. 23.—**Chelmsford.**—Houses.—56, on Boarded Barns estate, together with fences, laying of drainage and formation of paths appertaining thereto, for T.C. E. J. Miles, B.E. Dep. £2 2s.

Jan. 23.—**Dartford.**—Wiring.—For installing electric wiring, fittings and lamps in 48 houses on Lowfield-st. housing estate, for U.D.C. S.

Jan. 23.—**Dinnington.**—Installation.—Of electric light at Mining and Technical Institute, for West Riding E.C. Education Department, County Hall, Wakefield.

Jan. 23.—**Edinburgh.**—Painting.—At Home 20, Bangour Mental Hospital, for District Board of Control. W. M. Mowat, clerk, Castle-ter.

Jan. 23.—**Rathdrum.**—Convent.—At County Home, Rathdrum, for Wicklow County Board of Health and Public Assistance. Jones & Kelly, architects, 17, South Frederick-st., Dublin.

✱Jan. 23.—**Rowley Regis.**—Four Sanitary Conveniences.—Erection of, adjoining existing ones, and for incidental work in Lomey Town-rd., Cradley Heath, for the U.D.C. Council House, Old Hill, Staffordshire.

Jan. 23.—**Staines.**—Houses.—Erection of 22 at Walton-lane, Shepperton, for the R.D.C. D. C. Fidler, surveyor, London-rd., Ashford, Middlesex. Dep. £2 2s.

Jan. 23.—**Tredegar.**—Remodelling.—Siloh Baptist Church. W. E. Jones, architect, Rivoli, Park-row.

Jan. 23.—**Urmston.**—Houses.—48 type "A," at Granville-rd., for U.D.C. J. Heath, S. Dep. £2 2s.

Jan. 23.—**Whitehaven.**—Houses.—Erection and completion of 54 houses, for the Town Council. Borough Engineer and Surveyor, Town Hall, Whitehaven. Dep. £1 1s.

Jan. 24.—**Belfast.**—1,160 lin. yds. of wrought iron railing, 2,025 lin. yds. of steel bar fencing, 107 wrought iron gates and 107 wicket gates, at Seaview housing site, Shore-rd., for C.B. R. Meyer, T.C.

Jan. 24.—**Bristol.**—Demolition.—Of Broad Weir baths, Rope-walk, for T.C. L. S. McKenzie, City E. and S.

Jan. 24.—**Glin.**—Electric Lighting.—Installation in St. Joseph's Orphanage, Glin, County Limerick, for Committee. McEntee and O'Kelly, Consulting Engineers, 23, Upper O'Connell-st., Dublin. Dep. £2 2s.

Jan. 24.—**Islington.**—Demolition and Removal.—Offers invited Nos. 5, 6 and 7, Tyndale-pl., Upper-st., N.1, and for entire clearance of site and erection of hoarding to enclose the same for the Borough Council. E. C. P. Monson, F.R.I.B.A., Finsbury Pavement House, 120, Moorgate, E.C.2.

Jan. 24.—**Kilrenny.**—Houses.—12, for T.C. A. D. Haxton, architect, 3, High-st., Leven.

Jan. 24.—**Macclesfield.**—Additions.—Also alterations to farm buildings at Parkside Mental Hospital, for Chester C.C. F. Anstead Browne, F.R.I.B.A., C.A., Newgate-st., Chester. Dep. £1 1s.

Jan. 24.—**Southall-Norwood.**—Installation.—Electric wiring installation at the Sanatorium, Mount Pleasant, Southall, for U.D.C. J. B. Thomson, E. and S. Dep. £2 2s.

Jan. 24.—**Willesden.**—Houses.—277, at housing estate, Neasden-lane, Neasden, for U.D.C. F. Wilkinson, E.

Jan. 25.—**Birmingham.**—Heating.—Installation of heating apparatus in block 10 at Dudley-rd. Hospital, for B.G. Noel W. Greenway, Consulting Engineer, Lloyds Bank-chambers, New-st. Dep. £2 2s.

Jan. 25.—**Chelsea.**—Articles and Works.—Supply and execution of, from April 1 next to March 31, 1929, unless otherwise stated, for Chelsea Borough Council. W. R. Manning, B.S., Town Hall, King's-rd., Chelsea, S.W.3.

Jan. 25.—**Clydebank.**—Houses.—32 flatted 3-roomed houses in blocks of 4 at Whitecrook housing site, for T.C. B.S. Dep. £2 2s.

Jan. 25.—**Coedely.**—Pavilion.—Tennis and bowls pavilion, together with formation of paths and surface drainage works, etc., at Welfare Grounds, for Ely Valley Miners' Welfare Committee. R. S. Griffiths & Partners, architects and surveyors, Tonypandy.

Jan. 25.—**Coulsdon and Purley.**—Store.—Convenience and store at Rotary Field, Brighton-rd., Purley, for U.D.C. G. A. Ballard, S. Dep. £1 1s.

✱Jan. 25.—**Dartford and London.**—(1) Alterations to day rooms of ward blocks, at Darenth Training Colony, Dartford, Kent. (2) Corridor screens to pavilion 18, at Northern Hospital, Winchmore-hill, N.21, for the Metro Asylums Board. Office of the Board, Victoria Embankment, E.C.4. Dep. £1 in respect of each work.

Jan. 25.—**Dawlish.**—Houses.—Erection of 22 in blocks of 10 and 12, with the necessary roads, sewers and water mains, for the U.D.C. S. F. C. Churchward, Engineer and Surveyor, Council Offices, Dawlish. Dep. £3 3s.

Jan. 25.—**Dunmow.**—Building.—Engine house and machinery, together with appurtenant work, at pumping station, for R.D.C. Sands & Walker, engineers, Milton-chambers, Milton-st., Nottingham. Dep. £1 1s.

Jan. 25.—**Forgue.**—Repairs.—To Ecclesiastical buildings, for Church of Scotland General Trustees. J. Wittet, architect, Elgin.

Jan. 25.—**Liverpool.**—Shops.—Shops, with residences over, on Norris-green estate, for T.C. Acting Director of Housing. Dep. £3 3s.

Jan. 25.—**Penistone.**—Installation.—Of electric light in Penistone Spring Vale school, for West Riding E.C. W. Wood, Education Offices.

Jan. 25.—**Sligo.**—Garages.—Range of 6 garages at Station Hotel, for Gt. Southern Rlys. Chief Engineer, Broadstone Station, Dublin. Dep. £1 1s.

Jan. 25.—**Tyrone.**—Barracks.—Constabulary barrack at Mountfield, County Tyrone, for Government of Northern Ireland. R. E. Thornley, Assistant Secretary, Ministry of Finance, Belfast. Dep. £1.

Jan. 26.—**Hove.**—Houses.—Erection of 100 on the housing estate at The Knoll, Old Shoreham-rd., Hove, for the Borough Council. Borough Surveyor's Office, Town Hall, Hove. Dep. £3 3s.

Jan. 26.—**Thurlestone.**—House.—Club house at Thurlestone, for Thurlestone Golf Club. G. B. Perrott, architect, Kingsbridge.

Jan. 27.—**Manchester.**—Telephone Exchange.—Erection of extensions to Trafford Park Telephone Exchange, for the Commissioners, H.M.O.W. Contracts Branch, King Charles-st., London, S.W.1. Dep. £1 1s. (Cheques payable to the Commissioners.)

Jan. 27.—**Nottingham.**—Shops.—8 small shops, with houses attached, on Lenton Abbey estate, and also 8 similar small shops and houses on Cardale-rd., Carlton Hill estate, for T.C. T. Cecil Howitt, architect, 58-59, Long-row. Dep. £1.

Jan. 27.—**Redhill.**—Sorting Office.—Erection of an extension to Redhill Station Sorting Office, for the Commissioners of H.M.O.W. Contracts Branch, King Charles-st., Westminster, S.W.1. Dep. £1 1s. (Cheques payable to the Commissioners.)

Jan. 27.—**Salford.**—Floors.—Wood block floors, black granite fascia and plinth, wall tiling, door furniture, sanitary goods, in connection with electricity showrooms, for T.C. C. Swain, architect, Lloyds Bank-building, King-st., Manchester.

✱Jan. 27.—**Warwick.**—"Artificers Works."—Contract by competition for artificers works at Warwick, including the recruiting offices at Birmingham and Coventry, for the Secretary for War. D. C. R. E. Didcot, R.E. Office, R.A.O. Depot, Berks.

Jan. 28.—**Bradford.**—Extensions.—At Valley-rd. power station, comprising engine room, pump house, transformer room, annexe, and a portion of boiler house, for T.C. T. Roles, City Electrical Engineer. Dep. £2 2s.

Jan. 28.—**Buxton.**—Painting.—Internal and decoration of Buxton-gardens concert pavilion, for T.C. F. Langley, B.E.

Jan. 28.—**Devon.**—Alterations:—At Police Station, Bideford; Police Constable's House, Swimbridge, Barnstaple, for Devon C.C. C.A., 97, Heavitree-rd., Exeter.

Jan. 28.—**Doncaster.**—Classrooms.—At Hexthorpe boys' and girls' Council school, for E.C. R. E. Ford, estates surveyor, 3, Priory-place.

Jan. 28.—**Erpingham.**—Cottages.—13 pairs, for R.D.C. Buckingham & Berry, architects, 43a, Prince of Wales'-rd.

Jan. 28.—**Sale.**—Houses.—44, in Hulme-rd., for U.D.C. S. Dep. £2 2s.

Jan. 28.—**Salford.**—Additions.—Also alterations to present boundary walls at Old People's Homes, Stott-lane, Pendleton, for B.G. E. H. Inchley, C., Poor Law Offices, Eccles New-rd.

Jan. 28.—**Shotton.**—Extension.—To Grosvenor Working Men's Social Club, Jubilee-st., for Committee. H. Parry Jones, 23, Chester-rd., Queensferry. Dep. 10s. 6d.

Jan. 30.—**Dartford, Kent.**—Reconstruction.—Of Long Reach Smallpox Hospital, Dartford, for the Metropolitan Asylums Board. Office of the Board, Victoria Embankment, E.C.4. Dep. £5.

Jan. 30.—**Glasgow.**—Heating.—At new infant department, Shawlands secondary school, Pollokshaws-rd., Shawlands, for E.C. J. Clark, Director of Education.

Jan. 30.—**Guildford.**—Painting.—Also repairing works, etc., at public baths, Castle-st., for T.C. J. W. Hipwood, B.S.

Jan. 30.—**Hants.**—Alterations and Additions.—To the present Post Office and Telephone Exchange at Petersfield, for the Commissioners, H.M.O.W. Contracts Branch, King Charles-st., London, S.W.1. Dep. £1 1s. (Cheques payable to the Commissioners.)

Jan. 30.—**Hull.**—Alterations and Extensions.—To the Head Post Office, Hull, for the Commissioners of H.M.O.W. Contracts Branch, King Charles-st., Westminster, S.W.1. Dep. £1 1s. (Cheques payable to the Commissioners.)

Jan. 30.—**Swansea.**—Convenience.—Public convenience at Cwmbwrla, adjoining the Forward Movement Church, Gorse-rd., for C.B. J. R. Heath, B.E. and S.

Jan. 30.—**Swansea.**—Convenience.—Public convenience at Llansamlet, adjoining Smiths' Arms P.H., Church-rd., for C.B. J. R. Heath, B.E. and S.

Jan. 30.—**Torquay.**—Additions.—To public conveniences at Vaughan-rd., adjoining pavilion, for T.C. B.S. Dep. £2 2s.

Jan. 30.—**Walsall.**—New Infant School.—Erection of, in Blakenall-lane, Leamore, Walsall, for the Borough Council. J. Taylor, M.Inst.C.E. B.S., Council House, Walsall. Dep. £3 3s.

Jan. 30.—**Wirral.**—Bedrooms.—4 new bedrooms to administrative block at Fever Hospital, Spital, for Joint Hospital Board. Campbell & Honeyburne, architects, Bluecoat-chambers. Dep. £1 1s.

Jan. 31.—**Barnsley.**—Extensions.—To Barnsley and District Holgate Grammar School, Shaw-lane. Dyson, Cawthorne & Coles, architects, 10, Regent-st.

Jan. 31.—**Bethnal Green.**—Chapel.—Erection of, in the grounds of Bethnal Green Hospital, Cambridge-rd., London, E.2, for the Guardians. The Clerk, Guardians' Administrative Offices, Bishop's-rd, E.2. Dep. £1.

Jan. 31.—**Birkenhead.**—Alterations.—To Derby-rd. entrance to Union Institution, for B.G. E. Kirby & Sons, architects, 5, Cook-st.

Jan. 31.—**Box.**—House.—Police constable's house, for Devon C.C. C.A., 97, Heavitree-rd., Exeter.

Jan. 31.—**Dublin.**—Reconstruction.—Of North block of Four Courts, for Commissioners of Public Works. T. Cassedy, secretary, Dublin. Dep. £1.

*Jan. 31.—**Durham.**—Elementary School.—Erection and completion of, at Billingham, to accommodate 304 children; and also an elementary school at Ludworth, to accommodate 264 children, required by the County Council. F. Willey, F.R.I.B.A., 34, Old Elvet, Durham.

Jan. 31.—**Milltown.**—Houses.—56, for Irish Sailors and Soldiers Land Trust. Chief Clerk, 30, Lower Fitzwilliam-st., Dublin. Dep. £5 5s.

Jan. 31.—**Nenagh.**—Houses.—26, at O'Growney-st., for U.D.C. O. L. D. Gill, engineer.

Jan. 31.—**Wem.**—Hall.—Cheese Hall, Noble-st., for U.D.C. S. Dep. £1 1s.

Jan. 31.—**Westmorland.**—Additions.—Alterations and additions to police cells, at (1) Appleby, (2) Kendal (County Station), (3) Kirkby Lonsdale, (4) Kirkby Stephen, (5) Shap, for C.C. C. E. Hines, C.S., 12, Lowther-st., Kendal.

Jan. 31.—**York.**—Wall.—Ferro-concrete sheet piled river wall, approximately 800 ft. in length, on east side of Naburn Cut, for trustees of Ouse Navigation. E. Fewster, River Manager, Naburn Locks.

Feb. 1.—**Clacton.**—Pavilion.—Tennis, bowls and golf pavilion on Council's recreation ground, for U.D.C. S.

Feb. 1.—**Wednesbury.**—Installation.—Re-modelling of existing installation in County Technical College, and for installation of electric light and power in an extension of College, for Staffordshire E.C. Moffett Rosher & Mann, consulting engineers, Union-chambers, Temple-row, Birmingham. Dep. £5 5s.

Feb. 1.—**Woolpit.**—House.—Teacher's house on a site adjoining Woolpit Council school, for West Suffolk E.C. A. Ainsworth Hunt, C.A., 51a, Abbeygate-st., Bury St. Edmunds.

Feb. 2.—**Southampton.**—Manual Instruction and Cookery Room.—Erection of, at Farnborough Queen's-rd. Council school, for the County Council. A. L. Roberts, County Architect, The Castle, Winchester. Dep. £1 1s. by cheque payable to the Hants County Council, and crossed "Lloyds Bank, Ltd., Winchester." or particulars will not be sent.

*Feb. 3.—**Uxbridge.**—Alterations and Additions.—To the existing dining at the Union Institution, Hillingdon, near Uxbridge, for the Guardians of the Uxbridge Union. Hubert F. Bateman, Warwick-rd., West Drayton, Middlesex. Dep. £2 2s.

*Feb. 6.—**Bethnal Green.**—Superstructure and execution of other works relating to proposed public baths and washhouses at Old Ford-rd., for the Borough Council. A. E. Darby, A.M.I.C.E., Borough Engineer and Surveyor, Town Hall, Cambridge-rd., Bethnal Green, E.2. Dep. £5.

*Feb. 8.—**Sittingbourne.**—New Hospital.—Erection of new hospital Bell and Highsted-rds., Sittingbourne, for the District Cottage Hospital Committee. G. H. Potter, 76, High-st., Sittingbourne.

*Feb 15.—**Birkenhead.**—Overhead Gas Works Sidings.—Reconstruction of railway sidings at Birkenhead, for the Corporation. Gas Engineer, Harold R. Stone, Gas Works, Thomas-st., Birkenhead. Dep. £2 2s.

*Feb. 29.—**Poplar.**—Weighbridge.—Installation of a new weighbridge, including builders' work in connection therewith, at St. Andrew's Hospital, Bromley-by-Bow, for the Poplar Board of Guardians. Harley Heckford, M.Inst.C.E., architect, Council Offices, High-st., Poplar. Dep. £1 1s.

——.—**Bishop's Stortford.**—Repairs.—External repairs, repainting, etc., to Institution, Haymeads, for B.G. Dudley, Newman, Elliott & Wheeler, architects, 29, Bedford-row, W.C.1.

——.—**Blackpool.**—Cinema.—Cinema theatre, Hawes Side-lane, for J. & R. Harrison. Halstead Best, F.R.I.B.A., 8, Clifton-st.

——.—**Chadderton.**—School.—New secondary school for Lancashire E.C. S. Wilkinson, F.R.I.B.A., C.A., 16, Ribblesdale-place, Preston. Dep. £2.

——.—**Chingford.**—Cottages.—12, for British Legion. A. Lloyd Thomas & Douglas Wood, joint architects, 35, Craven-st., W.C.2.

*——.—**Near Ramsgate.**—Covering Condense Pipes.—Covering pipes carrying condense back from the calorifiers to the boiler house at Haine Isolation Hospital. Sidney Shea, Solicitor and Clerk, 19, Cecil-square, Margate.

——.—**Normanton.**—Extensions.—Also alterations to Queen-st. Liberal working men's club. B. Wilson, architect and surveyor, High-st., Tadcaster. Dep. £1 1s.

——.—**Rothwell.**—Installation.—Of electric light in Stourton Council school, for West Riding E.C. P. Beaumont, 8, St. John's North, Wakefield.

——.—**Skegby.**—Re-building.—White Swan, Skegby. Wagstaff & Sons, architects, Salter-gate, Chesterfield.

——.—**Southport.**—Houses.—2 pairs of semi-detached houses, also for alterations and pointing to pair of houses in Church-st., Southport. J. C. Payne & Son, estate agents, 399, Lord-st.

MATERIALS, ETC.

Jan. 23.—**Beverley.**—Stone.—For D.C. E. Picker, S.

Jan. 23.—**Devon.**—Highway Materials.—For C.C. F. E. Simpson, C.S., No. 2 Division, 21, Southernhay West, Exeter.

Jan. 23.—**Essex.**—Highways Materials.—For C.C. Wm. H. Morgan, C.S.

Jan. 23.—**Friern Barnet.**—Granite Chippings.—For U.D.C. J. M. Gameson, E. and S.

Jan. 23.—**Uckfield.**—Highway Materials.—For R.D.C. E. W. Ray-Johnson, Highway S.

Jan. 24.—**Southall-Norwood.**—Highway Materials.—For U.D.C. J. B. Thomson, E. and S.

Jan. 24.—**Willesden.**—Highway Materials.—For U.D.C. F. Wilkinson, E.

Jan. 24.—**Wokingham.**—Road Materials.—For R.D.C. District Surveyor.

Jan 25.—**Liverpool.**—Tarred Macadam, etc.—For T.C. City E.

Jan. 25.—**Southampton.**—Road Materials.—For C.C. W. J. Taylor, C.S.

Jan. 25.—**Southport.**—Pipes.—225 tons of cast-iron spigot and socket pipes, 12 in. in dia., for Southport, Birkdale and West Lancashire Water Board. C. B. Ede, E. and M., 14, Portland-st.

Jan. 26.—**Liverpool.**—Stoneware, etc.—For T.C. W. Moon, T.C.

Jan. 27.—**Grimsby.**—Highway Materials.—For C.B. H. G. Whyatt, B.E.

Jan. 27.—**Midhurst.**—Road Materials.—For R.D.C. G. C. Cole, S.

Jan. 28.—**Gainsborough.**—Road Materials.—For R.D.C. E. Donelly, S.

Jan. 28.—**Glamorgan.**—Road Materials.—For C.C. G. A. Phillips, C.S.

Jan. 28.—**Ilkley.**—Chippings.—For U.D.C. E. and S.

Jan. 28.—**London.**—Highway Materials.—For Paddington B.C. W. F. Abbiss, T.C.

Jan. 28.—**Stokesley.**—Roadstones.—For R.D.C. H. Lee, Highway Surveyor.

Jan. 30.—**Cheltenham.**—Cement, etc.—For Corporation J. S. Pickering, B.E.

Jan. 30.—**Cowes.**—Road Materials.—For U.D.C. J. W. Webster, E. and S.

Jan. 30.—**Croydon.**—Granite, etc.—For C.B. Borough Road Surveyor.

Jan. 30.—**Finchley.**—Granite.—For U.D.C. P. T. Harrison, E. and S.

Jan. 30.—**Herefordshire.**—Highway Materials.—For C.C. G. H. Jack, C.S.

Jan. 30.—**London.**—Road Materials.—For Hampstead B.C. T.C.

Jan. 30.—**Melton Mowbray.**—Road Materials.—For U.D.C. W. H. Jarvis, S.

Jan. 30.—**Ongar.**—Granite.—For R.D.C. H. C. Phillips, District S.

Jan. 30.—**Walsall.**—Highway Materials.—For R.D.C. W. P. Young, District S.

Jan. 30.—**West Suffolk.**—Highway Materials.—For C.C. E. H. Bond, C.S.

HENDERSON

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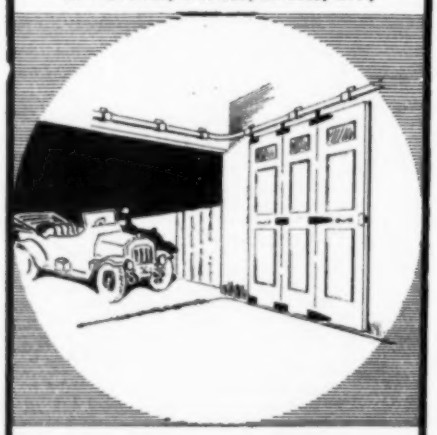
FOR FACTORIES, GARAGES, SCHOOLS, ETC.,



"TANGENT JUNIOR" FOR LIGHT DOORS
"TANGENT SENIOR" FOR HEAVY DOORS.

WRITE FOR BOUND CATALOGUE B.26 TO:-

P.C.HENDERSON, LIMITED,

TANGENT WORKS, BARKING, ESSEX.

Jan. 31.—**Alton.**—Road Materials.—For R.D.C. A. O. Crew, S.

Jan. 31.—**Canterbury.**—Road Materials.—For T.C. P. H. Warwick, City S.

Jan. 31.—**Dublin.**—Pipes.—330 yds. of 15-in. diameter cast-iron pipes and special castings, for C.B. G. J. Sherlock, T.C.

Jan. 31.—**Durham.**—Road Materials.—For C.C. W. J. Merrett, C.E. and S., 43, Old Elvet, Durham.

Jan. 31.—**East Ella.**—Road Materials.—For R.D.C. S. S. Mossop, Junr., C.

Jan. 31.—**Farnham.**—Cement.—For U.D.C. L. H. Starling, S.

Jan. 31.—**Isle of Wight.**—Granite.—For C.C. A. J. A. Harris, Highways S.

Jan. 31.—**Kettering.**—Gravel, etc.—For R.D.C. H. J. Parker, S.

Jan. 31.—**London.**—Road Materials.—For H.M.O.W. Contracts Branch, King Charles-st., S.W.1.

Jan. 31.—**Perth.**—Drainage Materials.—For D.C. of C.C. W. J. V. Bryce, District Road Surveyor.

Feb. 1.—**Amersham.**—Road Materials.—For R.D.C. A. H. Prince, District Surveyor, High-st.

Feb. 1.—**Boston.**—Granite.—For R.D.C. A. Barton, S.

Feb. 1.—**Chingford.**—Road Materials.—For U.D.C. E. and S.

Feb. 1.—**East Dereham.**—Road Materials.—For U.D.C. W. A. Norris, E. and S.

Feb. 1.—**Folkestone.**—Portland Cement.—For T.C. A. E. Nichols, B.E.

Feb. 1.—**London.**—Road Materials.—For Southwark B.C. P. H. Gray, T.C.

Feb. 1.—**Wood Green.**—Granite, etc.—For U.D.C. E. and S.

Feb. 2.—**Gillingham.**—Road Materials.—For T.C. J. L. Redfern, B.E. and S.

Feb. 2.—**Stockport.**—Highway Materials.—For C.B. H. Hamer, B.S.

Feb. 2.—**Tring.**—Road Materials.—For U.D.C. H. N. Hedges, S.

Feb. 3.—**Devon.**—Highway Materials.—For Northern Division of C.C. R. M. Stone, C.S., 9a, High-st., Barnstaple.

Feb. 3.—**East Barnet Valley.**—Highway Materials.—For U.D.C. H. York, E. and S.

Feb. 3.—**London.**—Highway Materials.—For Kensington B.C. T.C.

Feb. 4.—**Hertfordshire.**—Granite, etc.—For C.C. A. E. Prescott, C.S.

Feb. 4.—**Huntingdonshire.**—Road Materials.—For C.C. H. Leete, C.S.

Feb. 4.—**Mitcham.**—Cement, etc.—For U.D.C. S.

Feb. 4.—**Tadcaster.**—Road Material.—For R.D.C. G. A. Bromet, C.

Feb. 4.—**Tyldesley-with-Shakerley.**—Granite Concrete Flags.—For U.D.C. F. E. Jones, S.

Feb. 4.—**Wangford.**—Road Materials.—For R.D.C. Clerk.

Feb. 6.—**Bridgwater.**—Road Materials.—For T.C. H. P. Bishop, B.E. and S.

Feb. 6.—**Hendon.**—Highway Materials.—For U.D.C. A. O. Knight, E. and S.

Feb. 6.—**Little Hulton.**—Highway Materials.—For U.D.C. J. H. Heyes, C.

Feb. 6.—**Sunbury-on-Thames.**—Limestone, etc.—For U.D.C. H. F. Coales, E. and S.

Feb. 6.—**Sutton-in-Ashfield.**—Tarmacadam.—For U.D.C. W. Burn, S.

Feb. 7.—**Trowbridge.**—Chippings.—For U.D.C. G. W. J. Clark, E. and S.

Feb. 8.—**Blackburn.**—Highway Materials.—For C.B. H. M. Webb, B.E.

Feb. 8.—**Caterham.**—Road Materials.—For U.D.C. D. E. Biart, C.

Feb. 8.—**Middlesex.**—Road Materials.—For C.C. A. Dryland, C.E.

Feb. 9.—**Johannesburg.**—Tar.—2,600 tons of tar or tar substitute, for T.C. Department of Overseas Trade, 35, Old Queen-st., S.W.1. (Reference No. BX. 4121.)

Feb. 11.—**Eastbourne.**—Broken Granite.—For R.D.C. W. Walker, S.

Feb. 11.—**Horsforth.**—Granite, etc.—For U.D.C. J. E. Aldersley, S.

Feb. 13.—**South Stoneham.**—Road Materials.—For R.D.C. W. R. Cowall, S.

Feb. 15.—**Horncastle.**—Road Materials.—For R.D.C. J. S. Derbyshire, S.

Feb. 16.—**London.**—Road Materials.—For St. Marylebone B.C. T.C.

Feb. 16.—**Nottingham.**—Builder's Materials, etc.—For T.C. T. Wallis Gorden, City E. and S.

Feb. 20.—**Maldens and Coombe.**—Builder's Materials.—For U.D.C. S.

Feb. 21.—**Coventry.**—Builder's Materials.—For T.C. E. H. Ford, City E. and S.

Feb. 21.—**Tottenham.**—Road Materials.—For U.D.C. E. Townson, C.

Feb. 22.—**Caistor.**—Road Materials.—For R.D.C. G. Riley, S.

*Feb. 29.—**Battersea.**—Materials, etc.—Tenders for materials, etc., for 3, 6 and 12 months from April 1 next, for the Borough Council. Town Hall, Lavender Hill, S.W.1.

——.—**Rishworth.**—Granite or Limestone Chippings.—For U.D.C. J. Eastwood, S.

ENGINEERING, IRON AND STEEL.

Jan. 23.—**Burnley.**—Steelwork.—For footbridges over L.M. and S. Rly., at (1) Peace-st. to Livingstone-st., and (2) Cornwall-terr. to Cavalry-st., for C.B. B.E. and S.

Jan. 23.—**Wirral.**—Reservoir.—Covered concrete service reservoir on top of hill at Heswall, in the Wirral Peninsula near the existing water tower of the Board, and comprising excavation and forming embankments, concrete, plain and reinforced, fixing of ironwork, etc., for West Cheshire Water Board. G. H. Hill & Sons (Manchester), Civil Engineers, 40, Kennedy-st., Manchester. Dep. £2 2s.

Jan. 24.—**Leeds.**—Bridge.—Underline bridge, with steel superstructure, between Ardsley and Beeston, to carry L. and N.E. Rly., over new Ring-rd., for

Corporation. W. T. Lancashire, City Engineer. Dep. £3 3s.

Jan. 25.—**Axbridge.**—Sewage.—Additions and alterations to sewage disposal works and other works connected therewith, including building of screening chamber, open settlement tanks, storm water tank, collecting chamber, percolating filters, effluent drains, and fixing of screens, valves, cast-iron pipes, percolating distributors, etc., for R.D.C. Parker, Pearson & Ross Hooper, engineers, Chippenham. Dep. £5 5s.

Jan. 25.—**Dorking.**—Sewage Works.—Bacteria bed with sprinkler, dosing and humus tanks, etc., at North Holmwood sewage works, near Dorking, for R.D.C. G. Sawyer, Sanitary Surveyor, 14, South-st.

Jan. 25. — **Kirkby-in-Ashfield.**—Extensions.—4,933 yds. of 15-in., 12-in. and 9-in. concrete and stoneware pipe sewers, with manholes, taking up and relaying 400 yds. of 15-in. iron outfall sewer, and other appurtenant works, pumping station and pumping main, also extension of purification works, consisting of circular tank, two bacterial filters, humus tank, etc., for U.D.C. Elliott & Brown, Chartered Civil Engineers, Burton-buildings, Parliament-st., Nottingham. Dep. £3 3s.

Jan. 27.—**East Westmorland.**—Pipes.—80 tons of 4-in. and 3-in. cast-iron spigot and socket pipes, together with all bends, tee pieces, tapers and other specials, also for excavating trenches and hauling, laying, jointing and hydraulically testing about 3,900 yds. of 4-in. and 3-in. cast-iron pipes, together with the provision and fixing of a meter, valves, hydrants, etc., and construction of a small reservoir (25,000 gallons), situated at Marblescar, and other works incidental thereto, for R.D.C. Taylor and Wallin, Commercial Union Buildings, 47, Pilgrim-st., Newcastle-on-Tyne. Dep. £5.

Jan. 27.—**Ripley.**—Reconstruction.—Of storage reservoir, for U.D.C. G. W. Bird, C.E., engineer.

Jan. 27.—**Rotherham.**—Sewerage.—Extension of sewage disposal works, including construction of tanks, pump house and well, one circular filter 61 ft. 6 in. dia., etc., also stoneware and cast-iron sewers, manholes, etc., at Whiston, for R.D.C. C. O. Rawstron, engineer. Dep. £2 2s.

Jan. 28.—**Arbroath.**—Repairs.—Extending waste weir, reconstruction of apron to overflow channel, and the extension of overflow steps in reinforced concrete at Glenogil reservoir, for T.C. B.E. Dep. £1 1s.

Jan. 30.—**Pwllheli.**—Walls.—Concrete walls, new screening chambers, outlet pipes and other improvements at Murcwymp and Glasfryn springs; providing, hauling, laying and jointing of about 2,000 yds. of 6-in. and 4-in. cast-iron spigot and Socket water pipes, together with all sluice valves, air valves, fittings, and other works connected therewith, for Corporation. C. F. Farrington, engineer, M.Inst.C.E., Trinity-sq., Llandudno. Dep. £3 3s.

Feb. 15.—**London.**—Steelwork.—790 tons structural steel work for ironfoundry, together with corrugated asbestos sheets, patent glazing with wired glass, galvd. C.I. piping and fencing pales, etc., etc., for Madras and Southern Mahratta Rly. Co. Directors, 25, Buckingham Palace-rd., S.W.1.

Feb. 23.—**Newry.**—Bridge.—Single-leaf steel swing bridge over canal at Godfrey Bridge, for U.D.C. C. Blaney, Town Surveyor. Dep. £1 1s.

ROAD, SEWERAGE, AND WATER WORKS.

Jan. 23.—**Chelmsford.**—Sewer.—Formation, construction and maintenance during erection of houses, final completion of road work, and sewer and surface-water drain in Tennyson-av., for T.C. E. J. Miles, B.E. Dep. £1 1s.

Jan. 23.—**Manchester.**—Paving.—Sewering, draining, paving (concrete), etc., passage behind 16-32, Ivy-st., and adjoining 35, Bolton-st., and 38, Gloucester-st., and workshop behind 23, Cross-st., Gorton; passage behind 8-40, and adjoining 8, Neill-st., and behind 166 and 168, Queen's-rd., Gorton; passage behind 1-29, and adjoining 1, Silverwell-st., and behind 8-38, Tetlow-st., Newton Heath, for T.C. P. M. Heath, T.C. Dep. £1 1s.

Jan. 23. — **Manchester.**—Sewers.—Dealing with existing 2 ft. 6 in. diameter brick sewer in Gorton-lane, Gorton, from Casson-st. to Preston-st., and constructing about 207 lin. yds. of 3 ft. diameter brick sewer with necessary manholes, and connecting existing drains to new sewer, for T.C. P. M. Heath, T.C. Dep. £1 1s.

Jan. 23.—**Mansfield Woodhouse.**—Sewerage.—780 yds. of 12-in. and 540 yds. of 9-in. stoneware pipe sewers, with manholes and other appurtenant works, at Clipstone-rd., Old Mill-lane, and Pump Hollow-rd., Forest Town, for U.D.C. S.

Jan. 23.—**Mickleover.**—Mains, etc.—Provision of mains, etc., in connection with hospital extensions at Mickleover, for Derby County Mental Hospital Committee. Edwards and Shaw, engineers, 105, Colmore-row, Birmingham. Dep. £1 1s.

Jan. 23.—**Plymouth.**—Formation.—Of playing ground at Battery-st., Stonehouse, for C.B. J. Wibberley, B.E. and S. Dep. £1 1s.

Jan. 23.—**Rochford.**—Sewerage.—615 yds. of 7-in. and 9-in. stoneware sewers, with manholes and other works in Parish of Hadleigh, for R.D.C. Lemon & Blizard, 9, Victoria-st., Westminster. Dep. £3 3s.

Jan. 23.—**Romford.**—Improvement.—Widening to 50 ft. and reconstructing St. Mary's-lane, from Bell Hotel, Upminster, to Railway Bridge, Cranham, a distance of about 1,300 yds., for R.D.C. W. J. Grant, S. Dep. £2 2s.

Jan. 23.—**Steyning West.**—Road.—Laying-out and forming a new road at housing site at Monks, Lancing, comprising construction of 1,000 sq. yds. of carriageway, laying Kerinton stone kerbing, and forming footpaths with similar appurtenant works, for R.D.C. G. W. Warr, E. and S.

Jan. 24.—**Nairn.**—Roadway.—For (1) construction of new water bound roadway, including boxing thereof (approx. 2,000 sup. yds.); (2) 8-in. fire-clay sewer pipe (approx. 180 lin. yds.); (3) 3-in. C.I. water main (approx. 450 lin. yds.), for T.C. J. H. G. Peter, B.S.

Jan. 24.—**Salford.**—Sewerage.—In Great Clowes-st., for T.C. City Engineer.

Jan. 24.—**Southall-Norwood.**—Making-up.—Part of Montagu-rd., length about 800 feet, for U.D.C. J. B. Thomson, E. and S. Dep. £2 2s.

Jan. 24.—**Southall-Norwood.**—Sewers.—Extension of West-av., on Brickfield K.50 housing site, for U.D.C. J. B. Thomson, E. and S. Dep. £2 2s.

Jan. 25.—**Bilston.**—Widening.—Demolition of property at junction of Coseley-rd. and High-st., for U.D.C. A. F. B. Sidwick, E. and S.

Jan. 25.—**Birmingham.**—Sewer.—4,244 yds., of brick and concrete culverts and stoneware pipe sewers, together with other incidental works in private lands and in Berkeley-rd., Coventry-rd., Waterloo-rd., Church-rd., Harvey-rd., etc., at Hay Mills and South Yardley, for T.C. H. H. Humphries, City E. and S. Dep. £2.

Jan. 25.—**Burntisland.**—Sewers.—Road construction, laying sewer and water pipes, and fitting up street lamps for 6th development of Haugh housing scheme of 60 houses, for T.C. J. A. Waddell, B.S. Dep. £1 1s.

Jan. 25.—**Weston-super-Mare.**—Widening.—Bristol-Western-super-Mare-rd., from a point about 500 yds. west of Wellsea Rhyne, for a distance of about 2,000 yds., towards village of Worle, for U.D.C. H. A. Brown, E. and S. Dep. £3 3s.

Jan. 26.—**Leicester.**—Sewers.—760 lin. yds. of 9-in. diameter sewers, together with 2,670 superficial yds. of roadway, for T.C. J. S. Fyfe, A.R.I.B.A., Housing Architect. Dep. £2 2s.

Jan. 26.—**Plympton St. Mary.**—Main.—Providing and laying complete about 570 yds. of 5-in. diameter water main and appurtenant works at Plymstock, for R.D.C. E. Dep. £1 1s.

Jan. 26.—**Stafford.**—Sewage. — Sewage disposal works at Lammascote farm, for T.C. W. Plant, B.E. Dep. £2 2s.

Jan. 27.—**Cambridge.**—Roads.—On Hurst-park estate, Milton-rd., for Estates, Ltd. J. E. Few, secretary, 1, Sidney-st. Dep. £2 2s.

Jan. 27.—**Coulsdon and Purley.**—Improvement.—Widening of Addington-rd., for a length of 170 yds., including the construction of a concrete and stone retaining wall, etc., for U.D.C. G. A. Ballard, S. Dep. £2 2s.

Jan. 28.—**Aylesbury.**—Extension.—241 lin. yds. of 9-in. stoneware pipe sewers and manholes, in Mandeville-rd., for T.C. W. H. Taylor, B.E. and S. Dep. £1 1s.

Jan. 28.—**Farnborough.**—Improvements.—Certain portions of Cambridge and Albert-rds., for U.D.C. E. Hargreaves, S. Dep. £1 1s.

Jan. 28.—**Sale.**—Sewering.—Sewering, draining, levelling, metalling, kerbing, channelling, and paving Hulme-rd., for U.D.C. E. Bleakley, E. and S.

Jan. 28.—**Sowerby.**—Making-up.—Nelson-st., Belmont-st., and West-parade, for U.D.C. J. Eastwood, S.

Jan. 30.—**Coseley.**—Sewerage.—11,080 yds. of stoneware and cast-iron sewers, varying in size from 6-in. to 15-in. diameter, manholes, and other appurtenant works at Coseley, for U.D.C. Berrington & Son, engineers, Prudential-chambers, Lichfield-st., Wolverhampton. Dep. £5 5s.

Jan. 30.—**Farnworth.**—Sewering.—Building of manholes, sewering, etc., in back St. Germain-st., back Harrowby-st., back Worsley-rd., and back Clelland-st., for U.D.C. F. Ashton, E. and S. Dep. £2 2s.

Jan. 30.—**Finchley.**—Footpath.—In Nether-st., for U.D.C. T. Harrison, E., 9, The Hawthorns, Regent's Park-rd., N.3. Dep. £1.

Jan. 30.—**Finchley.**—Improvements.—In Greenlane, by Manor Cottage P.H., for U.D.C. T. Harrison, E., 9, The Hawthorns, Regent's Park-rd., N.3. Dep. £1.

Jan. 30.—**Finchley.**—Sewer.—Surface water sewer works near Avondale-rd. and Clifford-rd., East Finchley, for U.D.C. T. Harrison, E., 9, The Hawthorns, Regent's Park-rd., N.3. Dep. £1.

Jan. 30.—**Totnes.**—Road.—878 super. yds., for T.C. B.S. Dep. £1 1s.

Jan. 30.—**Woking.**—Making-up.—Park-rd., (East), length 770 yds., approximately; Park-rd., (West), length 303 yds., approximately; Thornash-rd., length 300 yds., approximately; Manor-rd., length 140 yds., approximately; Horsell-rise, length 380 yds., approximately; for U.D.C. G. J. Wooldridge, E. and S.

Jan. 31.—**Easington.**—Making-up.—(a) Easington Colliery—Back Seaside-lane South, side street (No. 2), Bede-st., side street (No. 3), Bede-st., back Bede-st., Seaside-lane to Crawlaw-rd. (b) Wheatley-hill—Back Cemetery-rd. East and side street, back Cemetery-rd. West and three side streets. (c) Seaham—Cross-st., between Model-st. and Clara-st. back, for R.D.C. R. Urwin Harper, Highways Surveyor, Castle Eden, Co. Durham.

Jan. 31.—**Epsom.**—Sewers.—Iron and stoneware pipe sewers, manholes, etc., in Rookery Hill, Farmlane and Park-lane, Ashtead Park estate, for R.D.C. F. A. Pratley, S.

Jan. 31.—**Rathmines and Rathgar.**—Pipes.—43 tons of 3-in. cast-iron pipes, for U.D.C. S.

Feb. 1.—**Clacton.**—Reconstruction.—Of Coppins-rd., for U.D.C. S.

Feb. 1.—**Haslemere.**—Making-up.—Courts Hill-rd., 630 yds., and Courts Mount-rd., 430 yds., for U.D.C. C. A. Best, S. Dep. £2 2s.

Feb. 2.—**Keynsham.** — Making-up.—Sherwell-rd., Brislington, about 290 yds., in length, on Council's housing estate, with water-bound macadam (surface dressed), kerbing, tarmacadam footways, and incidental works, for R.D.C. H. W. Argile, Building Surveyor. Dep. £1 1s.

Feb. 2.—**North Bromsgrove.**—Widening.—Widening, foundation work, kerbing, channelling and surfacing, etc., of Gunner and Callowbrook-lanes, and construction of street No. 7, for U.D.C. G. W. Booth, S. Dep. £2 2s.

Feb. 4.—**Buckfastleigh.**—Sewer.—Laying of 9-in. sewer and 3-in. water main in Plymouth-rd., for U.D.C. Surveyor, Fore-st.

Feb. 4. — **Nottingham.** — Pipework. — Exhaust water and other pipework, valves, tanks, etc., for Corporation. Preece, Cardew & Rider, 8, Queen Anne's Gate, S.W.1. Dep. £2 2s.

Feb. 6.—**Chingford.**—Making-up. — Beresford-rd. (part of), Douglas-rd., Victoria-rd. (part of), Hampton-rd. (part of), for U.D.C. S. J. Hellier, E. and S. Dep. £1 1s.

Feb. 6.—**Dundee.**—Main.—4,200 ft. of 10-in. internal diameter steel tubes, lined centrifugally with bituminous composition, and with ends prepared for victaulic joints, for T.C. George Baxter, Jr., Waterworks Engineer.

Competitions.

(*See Competition News, p.* 130.)

Auction Sales, Tenders, etc.

✱Jan. 23.—**Reigate.**—Watkin & Watkin will sell, at 28, Station-road, Redhill, shop fixtures and fittings of furnishing ironmongers.

Jan. 24 and following days.—**Maidenhead.**—F. W. Allwright & Son (Reading) will sell on the premises, Marlow-rd (owing to Messrs. J. K. Cooper & Sons removing to their new premises, 33, St. Luke's-rd., Maidenhead), stock-in-trade. Auctioneers, 6, Station-rd., Reading.

✱Jan. 25.—**London.**—Stanley Parkes & Brown will sell (unless previously disposed of by private treaty) at the London Auction Mart, 155, Queen Victoria-st., E.C., freehold building land at Edmonton. Auctioneers, 816, High-rd., Tottenham.

✱Jan. 25 and 26.—**Wembley.**—F. H. Clark will sell without reserve at the "Century" Sports Grounds, Forty-lane, and Empire Exhibition, Wembley Park, Middlesex, timber, buildings, hut sections, garden implements, sports equipment, timber and building materials, steelwork, furniture, etc. Auctioneers, North West Institute, Exhibition Grounds, Wembley Park, Middlesex.

Feb. 1, 2 and 3, 6, 7, 8 and 9.—**Canterbury.**—Street and Lewis will offer for sale on the premises, "Hales Place," Canterbury, fixtures and fittings previous to demolition of the Mansion, contents of the chapel and theatre. The outside effects. The fabric of the mansion will be sold for demolition. Auctioneers, 21, North Audley-st., Grosvenor-sq., London, W.1.

At an early date.—**Windsor.**—Knight, Frank & Rutley will sell in blocks or in numerous lots (unless disposed of privately), by direction of the Council of the Imperial Service College Trust, freehold building land on the western fringe of the Royal Borough. Auctioneers, 20, Hanover-sq., London, W.1.

Public Appointments.

Jan. 23. — **Straits Settlements.** — Architectural Draftsman required by the Municipal Commissioners of George Town, Penang, for the Engineers' Dept. Messrs. Peirce & Williams, MM.Inst.C.E., 64, Victoria-st., London, S.W.1.

Jan. 24.—**Manchester.**—Resident Clerk of Works. —Required at the Manchester Infirmary. Gen. Supt. and Sec.

✱Jan. 25.—**Wigan.**—Architectural Assistant required in the Borough Engineer's Dept. by the C.B. Town Clerk, Town Clerk's Office, Municipal Buildings, Library-st., Wigan.

✱Jan. 27.—**Leek.**—Clerk of Works required to superintend development of housing site for the U.D.C. W. E. Beacham, Engineer and Surveyor, Town Hall, Leek.

✱Jan. 28.—**Stepney.**—Clerk of Works, experienced, required by the Stepney Borough Council. Borough Engineer and Surveyor, Municipal Offices, Raine-st., E.1.

Jan. 30.—**London.**—Housing and Town Planning Inspector.—Required by the Ministry of Health. Director of Establishments, Ministry of Health, Whitehall, S.W., on prescribed form.

✱Jan. 31.—**Ireland.**—Quantity Surveyor in the Ministry of Finance required by the Government of Northern Ireland. Secretary, Civil Service Commission, 15, Donegal-square West, Belfast.

Jan. 31.—**Swansea.**—Assistant Quantity Surveyor required in the Borough Architect's Dept. by the County Borough Council. H. L. Lang-Coath, Town Clerk, Guildhall, Swansea.

✱Feb. 8.—**Leicester.**—Chief Architectural Assistant in the Dept. of the City Engineer and Surveyor required by the City Council. A. T. Gooseman, M.Inst.C.E., City Engineer and Surveyor, Town Hall, Leicester.

Feb. 11.—**London.**—Secretary required for the Royal Sanitary Institute, to take up duty at the end of June next. Chairman to the Council, 90, Buckingham Palace-rd., London, S.W.1.

✱Feb. 13.—**Southend-on-Sea.**—Principal required at the Municipal School of Arts and Crafts by the Southend-on-Sea Education Committee. John Sargent, Director of Education, Education Office, 20, Warrior-sq., Southend-on-Sea.

✱——.—**Ceylon.**—Quantity Surveyor required by the Government of Ceylon for the Architectural Branch of the Public Works Department for three years' service. Crown Agents for the Colonies, 4, Millbank, London, S.W.1, quoting M/390.

✱——. — **Southern Rhodesia.** — Male, trained Teacher, with certificate of education or Scottish Education Dept., required. Apply Secretary, High Commissioner for Southern Rhodesia, Crown House, Aldwych, W.C.2.

PROPOSED NEW BUILDINGS & OTHER WORKS*

In these lists care is taken to ensure the accuracy of the information given, but it may occasionally happen that, owing to building owners taking the responsibility of commencing work before plans are finally approved by the local authorities, "proposed" works at the time of publication have been actually commenced. Abbreviations: T.C. for Town Council; U.D.C. for Urban District Council; R.D.C. for Rural District Council; E.C. for Education Committee; B.G. for Board of Guardians; B.C. for Borough Council; P.C. for Parish Council; M.H. for Ministry of Health; M.T. for Ministry of Transport; C.B. for County Borough; B. of E. for Board of Education; M.A.B. for Metropolitan Asylums Board; and M.W.B. for Metropolitan Water Board; Borough Surveyor, B.S.; Borough Engineer, B.E.; District Surveyor, D.S.; Clerk, C.; Town Clerk, T.C.; County Engineer, C.E.; County Surveyor, C.S.; County Architect, C.A.; Surveyor, S.; Engineer, E.; Borough Architect, B.A.; Architect, A.

Ayton.—Site been purchased for village hall. Plans by F. Baker, L.R.I.B.A., architect, 7, York-pl., Scarborough.

Banbury.—T.C. recommend that 28 houses of non-parlour type be erected on vacant sites at Easington.

Barnsley.—The £33,250 T.C. abattoir scheme is not to be deferred. Amended plans have been approved and M.H.'s sanction to borrow is being sought.

Bedlington.—Consent of M.T. for rebuilding Bedlington Bridge been received.

Belfast.—Harbour Board decided to construct a bank for reclamation purposes on foreshore between Sydenham and Tillysburn.

Belmullet.—Ministry of Local Government is asked by County Mayo Board of Health to re-establish hospital at Belmullet.

Bickenhill.—Fund is being raised to erect a Church Hall, at £2,000.

Bilton.—Harrogate & District Co-operative Society are to erect premises.

Birmingham.—E.C. recommend, subject to M.H. and B. of E. approval, elementary school on land between Kingsbury-rd., and Firtree-rd.—E.C. also recommend reconstruction of Ada-st., Council school, subject to approval.—E.C. further recommend, subject to sanction of B. of E., proposals of Governors as to extension of King Edward's Grammar School for Boys, Camp Hill.—Elementary schools are also proposed at Acock's-green at £50,300, subject to approval.

Birstall (Yorks).—Birstall Industrial Co-operative Society, Ltd., decided to proceed with new central stores, at £8,000.

Blackburn.—T.C. passed plans:—5 houses, Lammack-rd., for W. Ainsworth; conveniences, Star Cinema, Plane-st., E. Taylor.

Blackpool.—Trustees of St. Mark's acquired site at Westcliffe-drive for new edifice. Members of Christian Science Church are proposing to erect a new Church at Hornby-rd.

Bournemouth.—A sum of £6,000 is to be spent on the provision of new sacristies at the Church of the Sacred Heart.—Rebuilding scheme at Church of Corpus Christi, Boscombe, will include erection of tallest spire.

Brentford.—B. of G. have given instructions for plans to be prepared for erection of West Middlesex Hospital. Dodge & Reid, architects, High-st.

Brighton.—M.H. have sanctioned £12,500 by Hove Council for the improvement of land at the extreme west of the front, known as the Lagoon, by the formation of a yachting lake and gardens.

Burnham-on-Sea.—St. Peter's Church is to be rebuilt, at £1,597. Mr. Cough, of Bristol, architect.

Chatteris.—U.D.C. received M.H. approval of provisional proposals for erection of further houses.

Chelmsford.—T.C. has sanctioned erection of 56 more houses at Tennyson-rd., Boarded Barns estate.

Chertsey.—A £20,156 tender for 50 Council houses been accepted.

Chester-le-Street.—R.D.C. decided to make application to M.H. for £10,000 for the completion of housing schemes at Fatfield and Edmondsley.

Chiswick.—The London Co-operative Society are to erect grocery, provision and butchers shops as well as a laundry receiving office in High-rd.

Colne.—T.C. approved plans for erection of 10 houses in Parker-st., for R. Fothergill.

Denton.—F. Lord, builder, Wallshaw-st., Oldham, is to erect 139 houses.

Derby.—Naylor & Sale & Woore, F. & A.R.I.B.A., Market-st., are to prepare plans for dispensary and additional poor law office accommodation.

Dover.—It is proposed by Hospital Committee to put in hand reconstruction of second portion of Isolation Hospital, which is estimated to cost £7,700. Plans by J. F. Dathoit, F.R.I.B.A., 3, Camden-cres.

Doncaster.—Estates Surveyor is instructed to proceed with preparation of scheme for swimming baths upon a site in centre of town.

Dublin.—Following plans for new buildings and works of reconstruction been approved by City Architect: Upper Abbey-st.,Jervis-st., factory, Leetham, Ltd.; corner Sheriff-st. and East Wall-rd., new building, Colfix, Ltd.; Upper Sheriff-st., extensions, J. Barrington & Sons; Fairview, new buildings, National Bank; Coombe, alterations and additions, Holy Faith Convent Schools.

Dudley.—With development of Priory estate, recently purchased by T.C., a site will be allocated for the new Technical College to be erected jointly with Stafford authority.

Dukinfield.—Magistrates granted permission to licensee of White Hart Inn, Mottram, to carry out structural alterations, including provision of a billiard-room.

East Ham.—B.E. submitted a revised estimate, amounting to £210, for erection of a convenience at Barking-rd., recreation ground, and C.B. recommend that estimate be approved, and B.E. be instructed to proceed with erection of convenience on Burges-rd., frontage of the recreation ground.—Town Clerk is to make inquiries with regard to the possible purchase of land in East Ham for housing purposes.—Plans passed: 52 lock-up garages on vacant land Kennard-st., W. Harris, Ltd.; 13 houses, 65-89, Shaftesbury-rd., H. W. Binns.

Edgware.—London Co-operative Society are to erect stores at Premier-parade and at Watling-st. L.C.C. estate.

Esher (Surrey).—The National Police Fund decided to vote £10,000 towards building large pavilion at Metropolitan Police sports ground at Imber Court. G. Mackenzie Trench, F.R.I.B.A., Police Architect, will design the building.

Eton.—Council has bought Denmark House, Slough, for £3,200 for use as Council Offices.

Ferryhill.—Plans been prepared for extensions of the Parish Church, at £15,000.

Finchley.—U.D.C. passed plans:—6 houses, Essex-park, for A. Ibbetson; 4 houses, Leopold-rd., N.2, W. A. Taylor; 6 houses, Nether-st., adjoining Elmgrange, W. T. Haward.

Gillingham.—Council passed plans: 5 bungalows, by W. Johncock; 12 bungalows, Eastcourt-lane, by F. B. Hooper, behalf H. Brunning; re-building bottle store, Hempstead-rd., by J. F. Lees; 4 houses, Carlton-av., by W. Johncock; 4 houses, Maple-av., by H. and F. S. Harris.

Gloucester.—Williams & James have purchased 4.11 acres of corporate land adjoining their works at Barton-st., for extensions.

Gt. Yarmouth.—Plans been prepared by A. Mather, 38, John-st., Bedford-row, W.C.1, for re-building of the Theatre Royal in High-st.

Harwich.—Plans for 4 houses in Lime-av., for Fisher & Woods, been approved by T.C.

Haslingden.—T.C. instructed surveyor to prepare plans of houses in blocks of 12 or 14 for submission to M.H.

Hendon.—Plans are being prepared for public washhouses at Child's Hill and West Hendon.—A library centre is to be established on L.C.C. Watling estate by U.D.C.

Holmfirth.—U.D.C. decided to proceed with 24 houses at Woodlands.

Hollinwood.—Chesters Brewery are to make improvements to the Railway Hotel. Brameld & Smith, architects, 4, Cannon-st., Manchester.

Houghton-le-Spring.—U.D.C. received sanction to erect 15 houses.

Hove.—T.C. passed plans: F. T. Cawthorne for Sussex County Cricket Club, addition, Sussex County Cricket ground, Eaton-rd.; L. Hipkins, pair semi-detached houses, Hogarth-rd.; R. J. & J. S. Thomson for Direct Supply Aerated Water Co., Ltd., factory (amended plan), Newtown-rd.; Comber & Wheatland, 3 houses, Mansfield-rd.; W. F. Andrews for E. Davis, 20 houses, Derek-av.

Hoyland.—U.D.C. approved plans for erection of business premises in West-st., for G. Eadon.

Keighley.—T.C. are to appoint committee to submit report as to works necessary to put Mansion House and Museum in Victoria Park into good condition.

Kerry.—County Board of Health intend to construct a reservoir in Ballydonion.

Kidderminster.—Markets Committee propose to carry out a scheme of extensions at offices in Cattle and Wholesale Markets, also to Sale Ring in Market.

Kingston.—Special Committee of Surrey C.C. been formed to consider the proposed extension of the County Hall at Kingston. Mr. E. Vincent Harris, architect, of St. James's-sq., S.W., has already prepared plans of proposed extension, which is to provide additional accommodation for 160 persons.

Leeds.—University medical block of buildings in Thoresby-pl., are to be extended by erection of a new wing, which will follow line of St. George's-rd., quadrangular block. A scheme of alterations is also to be carried out at General Infirmary to provide a suite of rooms for purpose of clinical instruction being taught to medical students.

Leicester.—Corporation are to extend museum.

Limerick.—Corporation are to carry out by direct labour, at £9,000, repairs to breaches in Corkanree embankment.

Liverpool.—A contract amounting to £118,090 has been signed for erection of Church Training College in connection with Dioceses of Chester, Liverpool and Manchester.

London (Hackney).—B.C. recommend erection of 5 blocks of tenement dwellings 5 storeys in height on plot of land on south side of Southwold-rd., giving accommodation for 100 families, at £62,940. —B.C. also recommend that proposed extension of lending department at Central Library be carried out under supervision of B.E. and S. at £260.—Plans passed: A. Rubens Cole, club room for All Souls' Church in yard at rear of 232, Rushmore-rd.; M. M. Shire, 10 lock-up garages at Tranby-pl., High-st., Homerton.

Luton.—At T.C. meeting plans were passed for an omnibus garage in Castle-st., and Chapel-st., for the National Omnibus and Transport Co., Ltd.; 6 houses (subsidy), Felix-av.; Branch Bank and domestic quarters, alterations for Lloyds Bank, Ltd., 124a, Dunstable-rd.; extensions to enamelling works Davis Gas Stove Co., Ltd.; alterations and additions to the "Goat Inn," Park-st.; and mineral water factory at rear of 3, Oxford-rd., J. Burgess.

Manchester.—New super cinema is being erected in Bury New-rd., Manchester, and will be known as the Astoria, and is to cost £40,000 to build.—Walker & Homfray, Ltd., Woodside Brewery, Salford, propose to rebuild the Gorton Brock Hotel, West Gorton, at £12,000. Plans by Brameld & Smith, 4, Cannon-st.

Middlesbrough.—T.C. passed plans for 6 houses for Cleveland Trust, Ltd., in Ayresome Grange-rd.

Navan.—Meath Technical Committee approved plans for additions to Technical School with a new store.

Nelson.—R. Jacques, A.R.I.B.A., 37, Railway-st., has in preparation plans for church of St. Bede's, which is to be erected on a site off Railway-st.—T.C. passed plans for 4 houses, in Berkeley-st., for A. Bowler.

New Brighton.—Reconstruction and improvements of the New Brighton Promenade and Pier, for which Corporation are paying £13,000, is to be proceeded with.

Northampton.—Northamptonshire C.C. are to utilise the old county gaol for office accommodation.

Oxford.—City Engineer been authorised to expend sum of £165 upon repairs and an additional bedroom to Sawpit Cottage.—Application is to be made to M.H. (i) for sanction to loan of £12,900 for construction of roads and sewers on South Park site, (ii) for sanction to a loan of £92,700 for erection of 220 houses on Gipsy-lane site.—Plans passed: 4 flats on an estate near Iffley-rd., by Mrs. Walklett.

Portsmouth.—T.C. passed plans:—J. May, 9 houses, Mayles-rd.; Henty & Constable, rebuilding Red Lion P.H., Cosham; McCarthy Bros., 21 houses, off Langstone-rd.; S. Foley, 5 houses, Langstone-rd.

Pudsey.—M.H. held an inquiry into T.C. application for sanction to borrow £12,755 for public hall, including a dance hall.

Rhyl.—U.D.C. decided to reconstruct the pier, at £25,000.

Richmond (Surrey).—B.E. and S. prepared sketch plans for additional public conveniences for men and women in Terrace-gardens, at £4,200.

Romford.—Following plans were approved by U.D.C.: 34 houses on Weald estate, Logan Estates, Ltd.; 36 houses, Hill View-av., and 16 houses, Oaks-av., T. A. Clark; 38 houses in Aveley-rd., W. H. Kitteridge; rebuilding of the Bull Inn, Ind. Coope & Co.; rebuilding of the Unicorn, Hare-st., Ind. Coope & Co.; and 6 houses in Dorset-av., F. Gell.

Roscrea.—County Board of Health decided to apply for sanction to loan of £18,000 for installing a sewerage system.

Saddleworth.—U.D.C. propose to erect 10 houses at Cobblers Hill, Delph.

Sheffield.—A scheme for enlargement of museum in Weston-park is under consideration. If it is decided to proceed with scheme, work will be carried out to designs prepared by City Architect.

Southam.—M.H. given provisional approval to proposition to undertake erection of 16 houses at Southam.—Ministry has also given provisional sanction to proposed housing scheme for Napton.

Southend-on-Sea.—New intermediate school is to be erected by E.C. to accommodate 400 scholars. F. W. Smith, A.R.I.B.A., architect, Southend-on-Sea.

Sowerby.—Application has been made to the M.H. to borrow £14,400 for reconstruction of sewage outfall works at Milner Royd. U.D.C. has accepted tenders for another 50 houses on Beechwood estate.

Spalding.—A big scheme of road reconstruction, costing £30,000, is contemplated by R.D.C.

St. Columb.—R.D.C. approved plans of Mr. Pearce, builder, Newquay, for 34 houses.

Sunderland.—C.B. recommend that an advertisement be issued inviting tenders for construction of 14 houses on frontage sites at Newcastle-rd.—Also for lay-out of Ford Hall estate, this showing sites for 720 houses, and that roads and sewers be provided at an estimated cost of £51,500, plus £4,050 for a culvert.—Sanction is to be made to borrow for erection of dwellings for persons of the working classes—82 houses at Newcastle-rd.—£33,856.—Tenders are to be invited for construction of 70 four-roomed houses and 30 three-roomed houses at Grangetown.

Thornaby.—T.C. decided to apply to M.T. and North Riding C.C. for approval of plans for widening and reconstruction of main road from Thornaby to Middlesbrough, between Brewery Bank and the old river bridge.

Torquay.—T.C. passed plans: 4 houses, Leys-rd., Chelston, for Chelston Building Co.; 4 houses, Livermead, for Gower Construction Co.—Corporation are to build a £2,500 sun lounge at baths.

Uxbridge.—R.D.C. passed plans: New ward block and cubicle block, Uxbridge Joint Hospital; two shops, Pinner-rd., Harefield. "Chopping Knife," one of oldest inns, is being demolished.

Wakefield.—B.G. propose to carry out certain improvements at Children's Home in Regent-st. W. H. Watson is to prepare plans.

Wallasey.—Corporation decided to erect, at £12,800, new bathing station, with 240 cubicles and 240 lockers, on Harrison-drive beach.

Walton-le-Dale.—U.D.C. decided to erect 20 more houses in Collins-rd.

Wednesbury.—Estimates submitted by B.S. regarding the lay-out of Mesty Croft housing site for 80 houses been approved by T.C.

Wigan.—Site for a new building in Wigan to accommodate all branches of Telephone Department has been secured in Hallgate.

Winthorpe.—Funds are to be raised in order to carry out renovation of Parish Church, interior being much decayed. Cost estimated at £2,350 by W. F. Wills, architect, Agatha-rd., Skegness.

Worcester.—Guardians are to seek sanction to a loan of £10,585 for nurses' home plans. Tenders are also to be sought for provision of additional day-room accommodation at male vagrant ward.

Worthing.—T.C. approved plans for 6 houses and garages, Shermanbury-rd., Martin & Francis.

* See also our List of Contracts, Competitions, etc.

PRICES CURRENT OF MATERIALS.*

[Owing to the exceptional circumstances which prevail at the present time, prices of materials should be confirmed by inquiry.]

BRICKS, &c.

Per 1,000 Alongside, in River Thames up to London Bridge.	£ s. d.
Best Stocks	4 5 6
Second Hard Stocks	3 19 6

Per 1,000. Delivered at London Goods Stations.

	£ s. d.		£ s. d.
Flettons, at King's Cross	2 14 3	Best Blue Pressed Staffs	9 5 0
Do., grooved for Plaster	2 16 3	Do. Bullnose	9 15 0
Do., Bullnose	3 8 3	Blue Wire Cuts	7 5 0
Best Stourbridge Fire Brick :—			
2½ in.	8 11 0	3 in.	10 3 0

GLAZED BRICKS—			
Best White Ivory, and Salt Glazed Stretchers	21 0 0	D'ble Str'tch'rs	29 10 0
Headers	20 10 0	D'ble Headers	26 10 0
Quoins, Bullnose and 4½in. Flats	27 10 0	One Side and two Ends	30 10 0
		Two Sides and one End	31 10 0
		Splays and Squints	28 0 0

Second Quality, £1 per 1,000 less than best. Cream and buff, £2 extra over white. Other colours. Hard Glaze, £5 10s. extra over white.

BREEZE CONCRETE SLABS.
Delivered London.

	s. d.		s. d.
2 in. per yd. super.	1 11	3 in. per yd. super.	2 9
2½ in. „ „	2 4	4 in. „ „	3 6

	s. d.	
Thames Ballast	10 6 per yd.	delivered 2 miles radius Paddington
Pit Sand	13 9 „ „	
Thames Sand	14 6 „ „	
Best Washed Sand	14 6 „ „	
¾ in. Shingle for Ferro-Concrete	12 9 „ „	
½ in.	14 0 „ „	
¾ in. Broken Brick	11 6 „ „	
Pan Breeze	8 0 „ „	

Per ton delivered in London area in full van loads.

Best Portland Cement. British. Standard Specification. Test £2 13 0 to £2 15 0	
46s. alongside at Vauxhall in 80-ton lots.	
Ferrocrete per ton extra on above	0 10 0
Super Cement (Waterproof)	4 3 0
Roman Cement	8 15 0
Parian Cement	5 15 0
Keene's Cement, White	5 15 0
„ „ Pink	5 10 0
Plaster, Coarse, Pink	3 0 0
„ „ White	3 12 6
„ Fine	5 12 0
Sirapite, Coarse	3 9 0
„ Finish	3 17 0
Grey Stone Lime	2 10 9
Chalk Lime	2 10 9
Best Ground Blue Lias Lime	1 17 6
Hair per cwt.	2 2 6
Granite Chippings	1 12 0

NOTE.—Sacks are charged 1s. 0d. each and credited 1s. 6d. if returned in good condition within three months carr. pd.
Stourbridge Fireclay in s'cks 37s. 6d. per ton at rly. dp.

STONE.

	s. d.
BATH STONE.—Delivered in railway trucks at Westbourne Park, Paddington, G.W.R., or South Lambeth, G.W.R., per ft. cube	2 10
BEER STONE—RANDOM BLOCK— Free on rail at Seaton Station, per ft. cube	2 3
Delivered free on rail Nine Elms, S.R. per ft. cube	3 1½
Selected approximate size one way, 1d. per cubic foot extra ; selected approximately three sizes or for special work, 3d. per cubic foot extra.	
PORTLAND STONE.— Brown Whitbed, in random blocks of 20 ft. average, delivered in railway trucks at Nine Elms, S.Rly., South Lambeth Station, G.W.R., and Westbourne Park, Paddington, G.W.R., per ft. cube	4 4½
Do. do. delivered on road wagons at above stations, per ft. cube	4 5½
White basebed, 3d. per ft. cube extra.	
NOTE.—1d. per ft. cube extra for every foot over 20 ft. *average*, and ½d. beyond 30 ft.	
HOPTON-WOOD STONE— Delivered at any Goods Station, London.	s. d.
Random blocks, from 10 ft. and over P. ft. cb.	17 0
Sawn two sides „	27 0
Sawn three or four sides „	32 0
YORK STONE, BLUE—*Robin Hood Quality.* Delivered at any Goods Station, London.	
6 in. sawn two sides landings to sizes (under 30 ft. super) Per ft. super	5 6
6 in. rubbed two sides, ditto .... „	6 0
3 in. sawn two sides slabs (random sizes) „	2 3½
2 in. to 2½ in. sawn one side slabs (random sizes) „	1 6½
1½ in. to 2 in. ditto, ditto „	1 3½
HARD YORK— Delivered at any Goods Station, London.	
Scappled random blocks Per ft. cube	6 3
6 in. sawn two sides landing to sizes (under 40 ft. super) Per ft. super	5 1½
6 in. rubbed two sides, ditto .... „	6 1½
4 in. sawn two sides slabs (random sizes) „	2 1½
3 in. ditto ditto „	2 10
2 in. self-faced random flags .. Per yd. super.	8 8

CAST STONE.

Delivered in London area in full-van loads, per ft. cube:—Plain, 8s. 6d.; Moulded, 9s. 6d.; Cills, 10s. 0d.

WOOD.

GOOD BUILDING DEAL.

Inches.	per stan.	Inches.	per stan.
4 × 11	£30 0	3 × 6	£21 0
4 × 9	26 0	3 × 11	25 0
4 × 8	25 0	2 × 11	26 0
4 × 7	23 0	3 × 9	24 0
3 × 8	22 0	2½ × 9	24 0
3 × 7	22 0	3 × 4½	21 0
2½ × 7	21 0	3 × 4	21 0

PLANED BOARDS.

1 × 11 ..... £30 0 | 1 × 9 ..... £28 0

PLAIN EDGE FLOORING.

Inches	per sq.
⅝	18/-
¾	21/-
1	24/-

TONGUED AND GROOVED FLOORING

Inches.	per sq.
1	24/-
1¼	30/-
1½	34/-

Ins.	BATTENS.	s. d.
¾ × 2	per 100 ft.	2 6

Inches.	per sq.
1½	30/-
1¾	34/-

MATCHING (BEST).	
Inches.	per sq.
⅝	16/6
¾	19/-
1	24/-

SAWN LATHS.	s. d.
Per bundle	2 6

1" AND UP THICK.

	£ s. d.	£ s. d.
Dry Austrian Wainscot, per ft. cube	0 16 0	to 0 18 0
Dry American and/or Japanese Figured Oak, ft. cube	0 14 0	to 0 15 0
Dry American and/or Japanese Plain Oak, ft. cube	0 10 0	to 0 13 0
Dry sq. edged Honduras Mahogany, ft. cube	0 15 0	to 0 18 0
Dry Log cut Honduras Mahogany, ft. cube	0 16 0	to 1 1 0
Dry Cuba Mahogany, ft. cube	1 1 0	to 1 10 0
Dry Teak, ft. cube	0 13 0	to 0 15 0
Dry American Whitewood, ft. cube	0 10 0	to 0 14 0
Best Scotch glue, per cwt.	4 10 0	to —
Liquid Glue, per cwt.	4 7 0	to 5 10 0

SLATES.

First quality slates from Bangor or Portmadoc carriage paid in full truck loads to London Rate Station. Per 1,000.

	£ s. d.		£ s. d.
24 by 12	32 18 4	18 by 10	18 12 11
22 by 12	29 17 11	18 by 9	16 9 2
22 by 11	27 14 2	16 by 10	15 12 6
20 by 12	26 5 0	16 by 8	12 3 9
20 by 10	22 10 0		

TILES.

Delivered at London rate stations in full truckloads of not less than 6 tons. Per 1,000 f.o.r. London.

Best machine-made tiles from Broseley or Staffordshire district		5 7 6
ditto hand-made ditto		5 17 6
Ornamental ditto		6 2 6
Hip and valley tiles (per dozen)	Hand-made	0 9 6
	Machine-made	0 9 0

METALS.

JOISTS, GIRDERS, &c., TO LONDON STATION, PER TON—

	£ s. d.
R.S. Joists, cut and fitted	12 10 0
Plain Compound Girders	14 10 0
„ „ Stanchions	16 10 0
In Roof Work	19 10 0

MILD STEEL ROUNDS.—To London Station, per ton.

Diameter.	£ s. d.	Diameter.	£ s. d.
¼ in.	12 0 0	⅜ in. to ½ in.	10 15 0
⅜ in.	11 0 0	⅝ in. to 2½ in.	10 10 0

WROUGHT-IRON TUBES AND FITTINGS—
(Discount off List for lot of not less than £7 net value delivered direct from Works, 2½ per cent. less above gross discounts, carriage forward, if sent from London Stocks.)

	TUBES. Wrought Mild Steel.	Genuine Staffs. Iron.	FITTINGS. ½ in. and under.	Over ½ in.	FLANGES. ½ in. and under.	Over ½ in.
	%	%	%	%	%	%
Gas	67½	50	42½	45	52½	55
Water	63½	46½	37½	40	47½	50
Steam	60	42½	32½	35	42½	45
Galv. gas	55	37½	32½	35	42½	45
Galv. water	50	32½	27½	30	37½	40
Galv. steam	45	27½	22½	25	32½	35

C.I.—HALF-ROUND GUTTERS—London Prices ex Works

Per yd. in 6 ft. lengths.	Gutters.	Angles and Nozzles.	Stop Ends.
3 in.	1/3½	11½d.	3½d.
3½ in.	1/4½	1/1½	3½d.
4 in.	1/6	1/3	3½d.
4½ in.	1/7½	1/4½	4½d.
5 in.	1/10½	1/6½	5½d.
O.G. GUTTERS.			
3 in.	1/8	1/4½	3½d.
3½ in.	1/8	1/4½	3½d.
4 in.	1/9½	1/4½	3½d.
4½ in.	1/11½	1/7½	4½d.
5 in.	2/4½	1/10½	5½d.

RAIN-WATER PIPES, &c.

per yd. in 6 fts.	Pipe.	Bends, stock angles.	Branches, stock angles.
2 in. plain	1/10½	1/3	1/9½
2½ in. „	2/0½	1/4½	2/1½
3 in. „	2/6	1/9	2/7½
3½ in. „	2/11½	2/0½	3/0½
4 in. „	3/5	2/6½	3/8½

L.C.C. COATED SOIL PIPES—London-Prices ex Works

	Pipe. angles.	Bends. stock angles.	Branches. stock angles.
	s. d.	s. d.	s. d.
2 in. per yd. in 6 fts. plain	3 3	2 4½	2 10
2½ in. „	3 9	2 7½	3 7
3 in. „	4 6	2 10	4 2½
3½ in. „	4 11½	3 7	4 11½
4 in. „	5 5½	4 0½	5 9

L.C.C. COATED DRAIN PIPES—London-Prices ex Works.

	Pipe, angles, stock angles.	Bends, stock Branches.
	s. d.	s. d.
3 in. per yd. in 9ft. lengths	4 4	5 1 / 8 0½
4 in. „ „	6 2	5 8 / 10 0
5 in. „ „	7 2	10 10 / 17 1
6 in. „ „	8 6	13 2 / 21 9

Gasken for jointing, 38/- per cwt.

	Per ton in London.
IRON—	£
Common bars	13 0 0 to 14 10 0
Staffordshire Crown Bars— Good merchant quality	14 5 0 to 15 15 0
Staffordshire Marked Bars	£ s. d. 16 5 0 .. 17 5 0
Mild Steel Bars	10 0 0 .. 11 0 0
Steel Bars. Ferro-Concrete quality, basis price	10 0 0 .. 11 0 0
Hoop Iron, basis price	12 0 0 .. 13 0 0
„ Galvanised	27 0 0 .. 28 0 0
Soft Steel Sheets, Black— Ordinary sizes to 20 g.	13 5 0 .. 14 5 0
„ „ „ 24 g.	14 5 0 .. 15 5 0
„ „ „ 26 g.	16 5 0 .. 17 5 0
Sheets Flat Best Soft Steel, C.R. and C.A. quality— Ordinary sizes, 6 ft. by 2 ft. to 3 ft. to 2 g.	15 10 0 .. 16 10 0
Ordinary sizes, 6 ft. by 2 ft. to 3 ft. to 22 g. and 24 g.	16 10 0 .. 17 10 0
Ordinary sizes, 6 ft. by 2 ft. to 3 ft. to 26 g.	18 10 0 .. 20 10
No. 1 quality £4 per ton extra.	
Flat and Galvanised Corrugated Sheets— Ordinary sizes, 6 ft. to 9 ft. to 20 g.	18 0 0 .. 19 0 0
Ordinary sizes, 6 ft. to 9 ft. to 22 g. and 24 g.	18 10 0 .. 19 10 0
Ordinary sizes 6 ft. to 9 ft. to 26 g.	21 10 0 .. 22 10 0
Sheets Galvanised Flat, Best quality— Best Soft Steel Sheets, 6 ft. by 2 ft. to 3 ft. to 20 g. and thicker	22 0 0 .. 23 0 0
Best Soft Steel Sheets, 22 g. and 24 g.	24 0 0 .. 26 0 0
Best Soft Steel Sheets, 26 g.	25 10 0 .. 26 10 0
Cut Nails, 3 in. to 6 in.	19 0 0
(Under 3 in. usual trade extras.)	

METAL WINDOWS.—Standard sizes, suitable for complete houses, including all fittings, painting two coats, and delivery to job, average price about 1s. 4d. to 1s. 7d. per foot super.

LEAD, &c.

(Delivered in London.)	£ s. d.
LEAD—Sheet, English, 4 lb. and up	30 10 0
Pipe in coils	31 0 0
Soil pipe	34 0 0
Compo Pipe	22 10 0
NOTE.—Countrydelivery,20s. per ton extra ; lots under 3 cwt. 3s. per cwt.extra, and over 3 cwt.and under 5 cwt., 1s. 6d. per cwt. extra. Cut to sizes. 5s. cwt. extra.	
Oil lead, ex London area, at Mills per ton	21 5 0

COPPER.

	s. d.
Seamless Copper tubes (basis) per lb.	1 0½
Strong sheet „	1 0
Thin „	1 1
Copper nails „	2 3
Copper wire „	2 4

PLUMBERS' BRASS WORK.
Delivered in London.

NEW RIVER PATTERN SCREW DOWN BIB COCKS FOR IRON.

½ in.	¾ in.	1 in.	1¼ in.	1½ in.	2 in.
29/-	45/-	76/-	153/-	246/-	510/- per doz.

NEW RIVER PATTERN SCREW DOWN STOP COCKS AND UNIONS.

½ in.	¾ in.	1 in.	1¼ in.	1½ in.	2 in.
41/6	62/-	92/-	174/-	300/-	588/- per doz.

RIVER PATTERN SCREW DOWN MAIN FERRULES.

½ in.	¾ in.	1 in.
39/6	60/-	116/6 per doz

CAPS AND SCREWS.

1¼ in.	1½ in	2 in.	3 in.	3½ in.	4 in.
7/6	10/-	14/-	23/-	30/-	42/- per doz.

DOUBLE NUT BOILER SCREWS.

½ in.	¾ in.	1 in.	1¼ in.	1½ in.	2 in.
7/6	11/-	17/-	29/-	36/-	63/- per doz.

BRASS SLEEVES.

1¼ in.	2 in.	3 in.	3½ in.	4 in.
10/-	12/-	20/-	24/-	31/- per doz.

NEW RIVER PATTERN CROYDON BALL VALVES, S.F.

½ in.	¾ in.	1 in.	1¼ in.	1½ in.
35/-	56/-	98/-	162/-	228/- per doz.

DRAWN LEAD P. & S. TRAPS WITH BRASS CLEANING SCREW.

1¼ in.	1½ in.	2 in.	3 in.
8 lbs. P. traps	33/-	41/-	56/-	101/- per doz.
8 lbs. S. traps	35/-	45/-	66/-	126/- „

TIN.—English Ingots, 3/1 per lb. SOLDER.—Plumber's 1/3, Tinmen's 1/6, Blowpipe 1/7 per lb.

PAINTS, &c.

			£ s. d.
Raw Linseed Oil,	in pipes per gallon		6 2 11
„ „ „	in barrels ..	„	0 3 1
„ „ „	in drums	„	0 3 3
Boiled „	„ in barrels ..	„	0 3 3
„ „	„ in drums	„	0 3 6
Turpentine	in barrels	„	0 3 11
„	in drums (10 galls).	„	0 4 1
Genuine Ground English White Lead, per ton			47 5 0
(In not less than 5 cwt. casks.)			

(Continued on p. 158.)

* The information given on this page has been specially compiled for THE BUILDER, and is copyright. The aim in this list is to give, as far as possible, the *average* prices of materials, not necessarily the highest or lowest. Quality and quantity obviously affect prices—a fact which should be remembered by those who make use of this information.

PRICES CURRENT OF MATERIALS (*contd.*)

PAINTS, &c. (*con'd.*)

		£	s.	d.
GENUINE WHITE LEAD PAINT— "Father Thames," "Nine Elms," "Park," "Supremus," "St. Paul's," "Morganswyte," "Polacco," "J." Brand, and other best brands (in 14 lb. tins) not less than 5 cwt. lots	per ton delivered	66	15	0
Red Lead, Dry (packages extra) ..	per ton	38	10	0
Best Linseed Oil Putty	per cwt.	0	15	0
Filicol	"	0	15	6
Size. XD quality	ftkn.	0	3	6

GLASS.

ENGLISH SHEET GLASS IN CRATES OF STOCK SIZES.

	Per ft.		Per ft.
15 oz. fourths ..	2½d.	32 oz. fourths	6½d.
15 " thirds ..	3½d.	32 " thirds.....	9½d.
21 " fourths ..	4d.	Obscured Sheet, 15 oz.	3½d.
21 " thirds....	4½d.	" " 21 "	4½d.
26 " fourths ..	4½d.	Fluted 15oz.6½d., 21oz.	9d.
26 " thirds....	6½d.	En'lied 15 oz.4½d.,21oz.6½d.	

Extra price according to size and substance for squares cut from stock

ENGLISH ROLLED PLATE IN CRATES OF STOCK SIZES.

	Per ft.
Rolled plate	4½d.
Rough rolled	5½d.
Rough rolled	5½d.
Figured Rolled, Baltic, Oceanic, Arctic Stippolyte, and small and large Flemish White	5½d.
Ditto, tinted	5½d.
Rolled Sheet.....	4½d.
White Rolled Cathedral.....	4½d.
Tinted do.	6½d.

Cast plate is same price as rough rolled.

VARNISHES, &c.

		Per Gallon. £	s.	d
Oak Varnish	Outside	0	14	0
Fine ditto	ditto	0	16	0
Fine Copal	ditto	0	18	0
Pale Copal	ditto	1	0	0
Pale Copal Carriage.....	ditto	1	4	0
Best ditto	ditto	1	12	0
Floor Varnish	Inside	0	18	0
Fine Pale Paper	ditto	0	18	0
Fine Copal Cabinet	ditto	1	2	6
Fine Copal Flatting.....	ditto	1	0	6
Hard Drying Oak	ditto	0	18	0
Fine Hard Drying Oak	ditto	0	19	0
Fine Copal Varnish	ditto	1	0	0
Pale ditto	ditto	1	2	0
Best ditto	ditto	1	12	0
Best Japan Gold Size		0	12	6
Best Black Japan		0	10	6
Oak and Mahogany Stain (water)		0	12	0
Brunswick Black		0	7	6
Berlin Black		0	14	6
Knotting (patent).....		1	5	0
French and Brush Polish		0	17	0
Liquid Dryers in Terebine.....		0	9	0
Cuirass Black Enamel.....		0	7	0

Prices of Building Materials.

THE Report of the Chairman of the Inter-Departmental Committee appointed to survey the prices of Building Materials has just been issued for the six months up to November, 1927. In the introduction to this, the Chairman (Mr. John W. Hills) states that during the past six months the downward movement of prices has become accelerated. Notes on specific materials are as follows :—

Bricks.—In most districts the prices of many types of common bricks have continued to fall in the period under review, by amounts varying up to a maximum of 11s. per thousand. In Birmingham, Leicester, Edinburgh and Glasgow, however, no decreases have yet been reported. Falls are also reported in the prices of facing bricks.

Portland Cement.—Except in Birmingham and in Scotland, English Portland cement has declined by amounts varying from 3s. to 10s. 6d. per ton. The price of the imported product has also fallen, though not to so marked an extent. Some falls are also reported in the price of lime.

Roofing Tiles.—There is evidence of a general drop in the prices of roofing tiles; and reduced prices for slates are also reported from some districts.

Lead.—The price of lead has continued to fall during the period, but there are signs of a slight hardening in some of the most recent prices. The reduction in the price of this article during the last year is considerable, amounting in many cases to over 30 per cent.

Cast-Iron Goods.—All articles comprised in this group have become cheaper.

Glazed Ware.—Falls in the prices of w.c.s and sinks are recorded in some districts. Reductions are also reported in white lead and in turpentine.

THE SCOTTISH BUILDER

NEW BUILDINGS IN SCOTLAND

Glasgow.—HOUSING.—The Housing Committee of Glasgow Corporation have decided to recommend the purchase of an area of ground at Carnwadrick, which lies between Pollokshaws and Thornliebank, for another housing scheme. The ground extends to 70 acres.

Perth.—HOUSES.—The Perth District Committee decided to erect eight additional houses at Scone and 12 at Bridge of Earn.

Edinburgh. — HOUSES. — The Edinburgh Dean of Guild Court has granted warrant for the erection of 2,174 houses of the estimated value of £1,187,311 during 1927. Plans have also been passed by the Court for Mr. William Inglis—four houses and four garages at Liberton-gardens, Liberton.

Dundee.—SLUM CLEARANCE.—A £140,000 slum clearance scheme has been agreed on by the Housing Committee of Dundee Town Council. It had been reported by the Medical Officer of Health and the City Engineer that the Small's Wynd area was an unhealthy one and unfit for human habitation.

Fife. — SCHOOL. — The Fife Education Authority has agreed to the erection at Halbeath of a special school for physically and mentally defective children.

Dundee.—INFIRMARY.—The trustees of the late Sir James Duncan of Kinnettles have approved of the following proposals of the directors of Dundee Royal Infirmary for the allocation of £21,000 for the erection of a modern dispensary.

Arbroath.—INFIRMARY.—The hon. secretary of the Arbroath Infirmary has received a letter from the trustees of the late Sir James Duncan confirming a grant of £11,000 to the infirmary from Sir James Duncan's trust. The trustees also agreed to the proposals of the infirmary directors for the application of the grant, which include a children's ward, an extension of the nurses' home, an out-patient department, and the endowment of beds.

Ayr.—HOUSE.—Plans have been passed by the Ayr Dean of Guild Court for the erection of a dwelling-house at Chapelpark-road, for Mr. John M. Rodger, at an estimated cost of £2,500.

North Berwick. — IMPROVEMENTS. — The North Berwick Town Council contemplate carrying out improvements at the harbour.

Cadder.—BRIDGE.—The Lower Ward of Lanarkshire have received a report that the new bridge over the canal at Cadder is to cost £5,773, and the Ministry of Transport is to bear half.

Glasgow Housing.

We learn that Lord Weir, in a letter he has sent to the Lord Provost of Glasgow, offers to present to the Housing Department of the Corporation as a free gift, under certain conditions, the buildings and plant of the Cardonald Housing Factory which has been in use for some time past in the production of steel houses. One of the conditions stipulated is that the Corporation will undertake to erect not less than 5,000 Weir houses for Glasgow.

International Surveyors' Congress in Sweden, 1928.

The Swedish Land Surveyance Department is preparing to celebrate its 300th anniversary on June 18, 1928, and on this occasion a congress of Surveyors in the four northern countries will meet in Stockholm to discuss professional problems.

BUILDING TRADE WAGES IN SCOTLAND.*

THE following are the present rates of wages in the building trade in the principal towns of Scotland. Every endeavour is made to ensure accuracy, but we cannot be responsible for errors that may occur :—

	Masons.	Bricklayers.	Carpenters, Joiners.	Plasterers.	Slaters.	Plumbers.	Painters.	Labourers—Masons', Bricklayers' Plasterers'.
Aberdeen	1/8	1/8½	1/8	1/8	1/8	1/8	1/7	10½d. to 1/1
Airdrie	1/8	1/8	1/8	1/8	1/8	—	1/6½	1/3
Alexandria	1/8	1/8	1/8	1/8	1/8	1/8	—	1/2½ to 1/3½
Arbroath	1/7	1/7	1/7	1/7½	1/7	1/7	1/5½	1/1½
Ayr	1/8	1/8	1/8	1/8	1/8	1/8	1/6½	1/3
Bathgate	1/8	1/8	1/8	1/8½	1/8	1/8	1/6½	1/2 to 1/3
Blairgowrie	1/7	1/7	1/7	1/7½	1/5	1/7	1/4	10d. to 1/-
Bo'ness	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3
Coatbridge	1/8	1/9	1/8	1/8	1/8	—	1/6½	1/3½
Dumbarton	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Dumfries	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Dundee	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3
Dunfermline	1/8	1/8	1/8	1/9	1/8	1/8	1/8	1/3½
Edinburgh.....	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Falkirk	1 7½	1 7½	1/7	1/8	1/7	1/7	1/6½	1/2½
Fort William	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/2
Galashiels	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Glasgow.....	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Greenock	1/8	1/8	1/8	1/9	1/8	1/8	1/7	1/0½ to 1/3½
Hamilton	1/8	1/8	1/8	1/9	1/8	1/8	1/6½	1/3½
Hawick	1/7	1/7	1/7	1/7-1/7½	1/7	1/7	1/7	1/3½
Helensburgh	1/8	1/8	1/8	1/9	1/8	1/8	1/7	1/3½
Inverness	1/6	1/6	1/8	1/6	1/6	1/6	1/6	1/- to 1/2
Kilmarnock	1/8	1/8	1/8	1/9	1/8	1/8	1/8	1/3½
Kirkcaldy	1/8	1/8	1/8	1/9	1/8	1/8	1/8	1/3½
Kirkwall	1/5	1/5	1/4	1/5	1/5	1/4	1/4	1/-
Lanark	1/8	1/8	1/8	1/9	1/8	1/8	1/6	1/- to 1/2
Leith	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Motherwell	1/8	1/8	1/8	1/9	1/8	1/8	1/6½	1/3½
Perth	1/8	1/8	1/8	1/9	1/8	1/8	1/6½	1/3
Stirling	1/8	1/8	1/8	1/9	1/8	1/8	1/8	1/3½
Stirlingshire (Eastern District)	1/8-1/10	1/8-1/10	1/8	1/9	1/7	1/8	1/6½	1/3½
Wishaw	1/8	1/8	1/8	1/9	1/8	1/8	1/7	1/3½

* The information given in this table is copyright. The rates of wages in the various towns in England and Wales are given on page 152.

CURRENT PRICES FOR BUILDING WORK IN LONDON*

EXCAVATOR.

		s.	d.
Digging and throwing or wheeling and filling carts, and carting away to shoot—6 ft. deep	per yard cube	11	0
Add if in clay	,, ,,	1	0
Add for every additional depth of 6 ft.	,, ,,	0	6
Planking and strutting to trenches	per foot super	0	5
Do. to sides of excavation, including shoring	,, ,,	1	0

CONCRETOR.

Portland cement concrete in foundation 1 to 6	per yard cube	38	0
Add if in underpinning in short lengths	,, ,,	7	0
Add if in floors 6 in. thick	,, ,,	3	3
Add if in beams	,, ,,	3	9
Add if aggregate 1 : 2 : 4	,, ,,	10	0
Add for hoisting not exceeding 10 ft. beyond the first 10 ft.	,, ,,	2	6

BRICKLAYER.

		£	s.	d.
Reduced brickwork in lime mortar and Fletton bricks	per rod	32	0	0
Add if in stocks	,,	7	10	0
Add if in Staffordshire blues	,,	22	0	0
Add if in Portland cement and sand	,,	1	10	0

FACINGS.

Extra for facing in English or Flemish bond for every 10s. per 1,000 over the price of the common bricks	per ft. super	0	0	1¼

POINTING.

Neat flat struck or weathered joint	,, ,,	0	0	3

ARCHES.

Extra only to the price of ordinary brickwork :—				
Fair external in half brick rings	,, ,,	0	0	10
Axed in stocks	,, ,,	0	1	9
Rubbed and gauged jointed in putty camber or segmental	,, ,,	0	6	0

SUNDRIES.

Damp course in double course of slates breaking joint and bedded in Portland cement	,, ,,	0	1	0
Setting ordinary register grates and stoves	each	1	0	0
Setting kitchener, including forming flues, &c., with all necessary fire bricks	,,	4	15	0

ASPHALTER.

		s.	d.
Half-inch horizontal damp course	per yard super	4	6
Three-quarter-inch vertical damp course	,, ,,	9	6
Three-quarter-inch on flats in two thicknesses	,, ,,	6	3
Angle fillet	per foot run	0	3
Skirting and fillet 6 in. high	,, ,,	1	2

MASON.

York stone templates fixed	per foot cube	13	0
York stone sills fixed	,, ,,	22	0
Bath stone and all labour fixed	,, ,,	10	6
Beer stone and all labour fixed	,, ,,	15	0
Portland stone fixed	,, ,,	20	0

SLATER.

Welsh 16 in. × 8 in. 3 in. lap, including nails	per square	72	9
Do. 20 in. × 10 in. Do. Do.	,,	80	9
Do. 24 in. × 12 in. Do. Do.	,,	90	0

CARPENTER AND JOINER.

Fir framed in plates	per foot cube	5	0	
Do. joists	,, ,,	5	6	
Do. roofs, floors and partitions	,, ,,	6	0	
Do. trusses	,, ,,	8	6	

		¾″	1″	1¼″	2″
Deal rough close boarding	per sq.	35/6	40/–	45/–	72/–

		s.	d.
Flat centering for concrete floor, including struts or hangers	,,	50	0
Do. to beams	per ft. sup.	1	0
Centre for arches	,,	1	6
Gutter boards and bearers	,,	1	0

FLOORING.

		¾″	1″	1¼″	1½″
Deal-edges shot	per sq.	—	44/6	53/–	60/6
Do. tongued and grooved	,,	—	49/–	57/6	65/–
Do. matchings	,,	45/–	51/–	—	—
Moulded skirting, including backings and grounds	per ft. sup.	1/6	1/9	2/–	2/6

SASHES AND FRAMES.

		s.	d.
One-and-a-half moulded sashes or casements	per foot super	1	10
Two Do. Do.	,, ,,	2	1
Add for fitting and fixing	,, ,,	0	3
Deal-cased frames with 1 in. inner and outer linings, 1¼ in. pulley stiles tongued to linings, hard wood sills with 2 in. moulded sashes in squares, double hung, double hung with pulleys, lines and weights; average size	,, ,,	3	9

DOORS.

		1½″	1¾″	2″
Two-panel square framed	per ft. sup.	2/1	2/4	2/6
Four-panel Do.	,,	2/5	2/8	2/11
Two-panel moulded both sides	,,	2/8	2/11	3/2
Four-panel Do. Do.	,,	2/11	3/2	3/5

CARPENTER AND JOINER—continued.

FRAMES.

		s.	d.
Deal wrot moulded and rebated	per foot cube	14	0

		1″	1¼″	1½″
Plain deal jamb linings framed	per ft. sup.	1/7	1/8	1/11
Deal shelves and bearers	,,	1/4	1/6	1/9
Add if cross-tongued	,,	2d.	2d.	2d.

STAIRCASES.

	1″	1¼″	1½″	2″	2½″
Deal treads and risers in and including rough brackets	2/1	2/4	2/9	—	—
Deal strings wrot on both sides and framed	1/8	2/–	2/2	2/8	—

		s.	d.
Housings for steps and risers	each	0	11
Deal balusters, 1 in. × 1¼ in.	per ft. run	0	9
Mahogany handrail : average, 3 in. × 3 in.	,, ,,	6	0
Add if ramped	,, ,,	12	0
Add if wreathed	,, ,,	24	0

FIXING ONLY IRONMONGERY (INCLUDING SCREWS).

6 in. barrel bolts	8½d.	Rim locks	2/–
Sash fasteners	11½d.	Mortice locks	4/6
Casement fasteners	1/5	Patent spring hinges and letting into floor and making good	19/–
Casement stays	1/2		
Cupboard locks	1/5		

FOUNDER AND SMITH.

		s.	d.
Rolled steel joists	per cwt.	16	3
Plain compound girders	,,	19	0
Do. stanchions	,,	21	9
In roof work	,,	27	6

RAIN-WATER GOODS.

		3″	4″	5″	6″
Half-round plain rebated joints	ft. run	1/6	1/9	2/–	2/6
Ogee Do. Do.	,,	1/9	2/–	2/6	3/3
Rain-water pipes with ears	,,	1/9	2/7	—	—
Extra for shoes and bends	each	4/4	5/11	—	—
Do. stopped ends	,,	1/11	2/4½	3/7	4/–
Do. nozzles for inlets	,,	2/2	2/7	3/10	4/3

PLUMBER.

		s.	d.
Milled lead and laying in flashings and gutters	per cwt.	43	0
Do. Do. in flats	,,	42	0
Extra labour and solder in coated cesspools	each	6	9
Welf joint	per ft. run	0	6
Soldered seam	,, ,,	1	3
Copper nailing	,, ,,	0	4

		½″	¾″	1″	1½″	2″	4″
Drawn lead waste	per ft. run	1/2	1/9	2/–	3/4	4/–	—
Do. service	,,	1/8	2/2	2/7	3/10	—	—
Do. soil	,,	—	—	—	—	—	6/9
Bends in lead pipe	each	—	—	—	—	3/3	8/2
Soldered stop ends	,,	1/2	1/8	2/1	2/10	3/6	—
Red lead joints	,,	11d.	1/–	1/3	1/11	2/4	4/10
Wiped soldered joints	,,	2/10	3/6	4/–	4/11	6/6	9/9
Lead traps and cleaning screws	,,	—	—	—	14/7	19/6	—
Bib cocks and joints	,,	6/4	9/7	15/4	41/–	—	—
Stop cocks and joints	,,	15/4	17/2	25/8	64/–	—	—

PLASTERER.

			s.	d.
Render, float and set in lime and hair	per yard. sup.		2	6
Do. Do. Sirapite	,,	,,	2	9
Do. Do. Keen's	,,	,,	4	0
Add saw lathing	,,	,,	1	7
Add metal lathing	,,	,,	2	6
(Not including hangers or runners, etc., for suspended ceilings.)				
Portland cement screed	,,	,,	2	2
Do. plain face	,,	,,	3	3
Mouldings in plaster	per 1 girth		0	1¾
One-and-a-half granolithic pavings	per yard sup.		5	9

GLAZIER.

		s.	d.
21-oz. sheet plain	per foot sup.	0	8½
26-oz. Do.	,, ,,	1	0
Obscured sheet	,, ,,	1	1
⅛-in. rolled plate	,, ,,	0	9
¼-in. rough rolled or cast plate	,, ,,	0	10½
¼-in. wired cast plate	,, ,,	1	4

PAINTER.

Preparing and distempering, 2 coats	per yard sup.	0	9
Knotting and priming	,, ,,	0	7
Plain painting, 1 coat	,, ,,	0	9
Do. 2 coats	,, ,,	1	2
Do. 3 coats	,, ,,	1	9
Do. 4 coats	,, ,,	2	4
Graining	,, ,,	2	3
Varnishing twice	,, ,,	1	9
Sizing	,, ,,	0	3
Flatting	,, ,,	0	7
Enamel	,, ,,	1	1
Wax polishing	per foot sup.	0	6
French polishing	,, ,,	1	2
Preparing for and hanging paper	per piece, 2/– to 4/–		

* These prices apply to *new buildings only*. They cover superintendence by foreman and carry a profit of 10% on the prime cost without establishment charges. A percentage of 1½ should be added for Employers' Liability and National Health and Unemployments Acts and from 1s. 6d. per £100 for Fire Insurance. The whole of the information given on this page is copyright.

TRADE NEWS

Change of Address.

Messrs. Walter Cassey, Ltd., of 81, High Holborn, W.C.1, advise us that to cope with expanding business they have acquired new premises for offices and showrooms at the above address. Telephones: Chancery 8726-7.

A Representative for Slates.

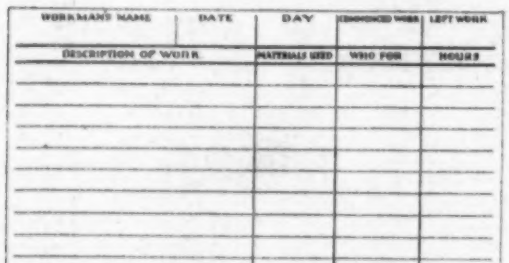
We learn that Mr. J. P. Walshe is again sole representative of the Tilberthwaite (Westmorland) Green Slate Co., Ltd., Kendal. He will be pleased to have inquiries addressed to his office, Windsor House, 46, Victoria-street, Westminster, S.W.1.

Waterproof Asphalt.

Messrs. Hobdell, Way & Co., 45, Church-street, Minories, E.1, announce that they have taken over the sole selling rights in this country and the Colonies of the well-known products, Karnok, Krodeproof and Korkseal, manufactured by the Lewis Asphalt Engineering Corporation of New York. A booklet dealing with these corrosion-preventive products may be obtained upon application.

Time Sheets.

Readers requiring anything in the way of time-sheets should communicate with Messrs. J. C. King, Ltd., 42-60, Goswell-road, E.C., who make a speciality of these, together with prime cost books and other office stationery, ranging from filing cabinets and loose-leaf ledgers down to simple enclosure slips, etc. Most forms of time-sheets, of which we illustrate one here, cost books, etc., are kept in


WORKMAN'S NAME | DATE | DAY | COMMENCED WORK | LEFT WORK

DESCRIPTION OF WORK | MATERIALS USED | WHO FOR | HOURS

OUT WORK - Hours | TOTAL

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stock, with rulings to suit engineers, contractors, surveyors, auctioneers and others. Messrs. King inform us that they will be pleased to send samples free of charge to anyone interested.

"Fittings of Distinction."

Under this heading, Messrs. O'Brien, Thomas and Co., of 17-18, Upper Thames-street, E.C.4, have issued a catalogue, No. 51, of a few examples of their modern sanitary ware. Some delightful types of fireplaces are contained, and show how beauty and efficiency may be combined. Kitchen ranges, lavatory basins, baths, etc., are illustrated as well, and generally the catalogue is likely to prove of assistance to the architect and contractor. Messrs. O'Brien, Thomas will be pleased to forward this catalogue—together with their "Classifile No. 30," containing further designs—to any architect who makes application.

Westminster Bank, Limited.

The net profits of Westminster Bank, Ltd., for the past year, after providing for bad and doubtful debts and all expenses, amount, we learn, to £2,132,815 9s. 10d. This sum, added to £508,522 6s. 8d. brought forward from 1926, leaves available the sum of £2,641,337 16s. 6d. The dividend of 10 per cent. paid in August last on the £20 shares and 6¼ per cent. on the £1 shares absorbs £678,137 11s. A further dividend of 10 per cent. is now declared in respect of the £20 shares, making 20 per cent. for the year; and a further dividend of 6¼ per cent. on the £1 shares will be paid, making the maximum of 12½ per cent. for the year.

TENDERS

Communications for insertion under this heading should be addressed to "The Editor," and must reach him next week not later than Tuesday evening.

* Denotes *accepted.*
† Denotes *provisionally accepted.*
‡ Denotes *recommended for acceptance.*
§ Denotes *accepted subject to modifications.*

Accrington.—New premises for Accrington Trades and Labour Club. Mr. H. S. Grimshaw, architect, 24, Willow-street:—

*G. Cunliffe & Son, Ltd.
Joiners—
*Riley Clegg.
Plumbers—
*Riley & Riley.
Plasterer—
*G. Eastwood.
Slater—
*Evans & Co.
Heating Engineer—
*J. Dickinson & Sons.
Decorators—
*J. Grimshaw.
(All of Accrington.)

Armthorpe.—Cinema, billiards hall, shops, etc., for Scala (Armthorpe), Ltd. Messrs. Garside & Pennington, F.R.I.B.A., architects, Ropergate, Pontefract.

*Barber & Hesseltine, Pontefract £12,000

Ashton-under-Lyne.—64 houses in Nook-lane and George-street, near Hurst Cross, for the T.C. Mr. J. Rowbottom, Borough Surveyor, Town Hall:—

*H. Pugh, Caergwrle.

Aylesbury.—New offices, for the Bucks C.C. Mr. C. H. Riley, L.R.I.B.A., County Architect, Aylesbury. Quantities by Messrs. Baker & Mallett, F.F.S.I., 81, High Holborn, London, W.C.:—

J. & W. Stewart, Baker-street, W.1	£56,032	0	0
Hammond & Barr, Ltd., Brompton-road, S.W.3	55,520	0	0
W. Jones & Sons, Ltd., Westminster, S.W.1	53,000	0	0
J. Honour & Son, Ltd., Tring	51,274	0	0
Perrys (Ealing), Ltd., Ealing	50,939	0	0
A. Fairhead & Sons, Ltd., Enfield	50,819	0	0
Cannon, Green & Co., Ltd., Aylesbury	50,602	0	0
Walden & Co., Ltd., Reading	49,172	10	6
H. Lacey & Sons, Luton	48,866	0	0
G. H. Gibson & Sons, High Wycombe	48,689	0	0
G. Biggs & Sons, Gt. Kingshill	48,366	0	0
H. J. & A. Wright, Ltd., Gt. Missenden	48,279	0	0
Welwyn Builders, Ltd., Welwyn Garden City	47,608	0	0
J. E. Billings & Co., Ltd., Victoria-street, S.W.1	47,606	0	0
Wilson Lovatt & Sons, Ltd., Wolverhampton	47,564	0	0
Edwin Archer & Sons, Ltd., Northampton	47,532	0	0
Norris & Co. (Builders), Ltd., Sunningdale	47,516	0	0
C. Miskin & Sons, Ltd., St. Albans	47,020	0	0
Jesse Mead, Ltd., Chesham	46,560	0	0
A. C. Dean, High Wycombe	46,727	0	0
The Building & Public Works Construction Co., Ltd., Swindon	46,595	0	0
F. J. Walker, Winslow	46,444	3	5
W. S. Try, Cowley	46,115	0	0
†Webster & Cannon, Aylesbury	45,600	0	0

Biggleswade.—Houses for the R.D.C.:—

	Section 1, Potton.		Section 2, Stotfold.		Section 3, Arlesey.		Section 4, Arlesey.	
	20 houses.	Alternative price.	20 houses.	Alternative price.	8 houses.	Alternative price.	12 houses.	Alternative price.
	£	£	£	£	£	£	£	£
M. J. Allen & Sons, Brampton	7,990	—	8,428	—	3,491	—	5,078	—
G. F. Armitage, Letchworth	8,400	—	8,400	—	3,360	—	5,040	—
F. J. Bailey & Co., Ltd., Ashwell	8,960	—	8,780	8,880	3,525	3,565	5,256	5,316
W. F. Bailey, Hitchin	8,200	8,350	8,200	8,350	3,280	3,340	4,920	5,010
Bartle & Son, Potton	8,560	—	—	—	—	—	—	—
Baxter & Worboys, Stotfold	7,740	7,720	6,870*	6,850	3,018	3,010	4,475	4,463
Bennett Bros., Letchworth	—	—	7,120	7,180	2,880	2,904	4,272	4,308
Arthur Carter, Luton	8,400	8,310	8,400	8,310	3,384	3,348	5,076	5,022
John Cracknell, Ltd., Peterborough	7,762*	7,713	7,870	7,821	3,231	3,211	4,780	4,750
F. Dearman, Weston, Herts	—	—	—	—	3,040	3,020	—	—
Eagling, Reynolds & Co., Eaton Ford	8,695	—	—	—	—	—	—	—
Herbert Gentle, Stotfold	—	—	6,960	6,980	—	—	—	—
Heels & Sugars, Luton	—	—	8,300	—	3,400	—	5,100	—
G. Hotter & Son, Ltd., Billingborough	11,845	11,987	11,920	12,062	4,890	*4,947	7,287	7,372
H. C. Janes, Ltd., Luton	8,980	—	8,980	—	3,677	—	5,437	—
Robt. Jeakings, Bedford	9,500	—	9,820	—	3,872	—	5,808	—
Jeffs & Bigley, Letchworth	—	—	7,920	7,980	3,280	3,304	4,852	4,888
Matthews & Welch, Leagrave	—	—	785	—	791	—	789	—
E. B. Meek, Welwyn	7,600	7,560	7,600	7,560	3,040	3,024	4,560	4,536
C. Miskin & Sons, Ltd., St. Albans	8,672	—	8,120	—	3,476	—	4,998	—
D. C. Pearce & Son, Letchworth	8,400	—	8,120	—	3,298	—	4,872	—
Pettengell & Clark, Hitchin	8,067	8,057	7,980	7,970	3,232	3,228	4,872	4,866
F. C. Phillips, Arlesey	8,600	8,640	7,200	7,240	2,758	2,774	4,134	4,158
W. F. Rand, Ashwell	8,500	8,545	6,898	6,938	2,820*	2,836	4,160*	4,184
John Ray, Letchworth	7,940	7,995	7,700	7,755	7,850	7,905	—	—
Seymour Bros. & Tookey, Stotfold	—	—	6,968	7,028	2,849	2,873	4,243	4,279
E. Smith & Son, Arlesey	—	—	—	—	3,160	3,200	—	—
G. R. Turner & Son, Stotfold	—	—	8,824	8,884	3,509	3,533	5,285	5,321
C. A. White, Bedford	9,171	9,331	9,335	9,495	3,668	3,732	5,473	5,569
D. J. Williams, Porth	8,200	8,110	8,200	8,110	3,296	3,260	4,932	4,878
John Willmott & Sons, Ltd., Hitchin	8,394	8,494	7,749	7,849	3,185	3,225	4,750	4,810
C. D. Woodward, Biggleswade	8,392	—	8,453	—	3,505	—	5,228	—
Wrights (Langford), Ltd., Langford	—	—	8,600	8,590	3,616	3,612	5,100	5,094

Ballyclare.—Public elementary school at Ballyrobert, Ballyclare, for the Antrim Regional E.C. Mr. W. D. R. Taggart, C.E., Scottish Provident-buildings, Belfast. Quantities by Messrs. McCarthy & Lilburn, Scottish Provident-buildings, Belfast:—

Thornbury Bros	£4,515	0	0
L. Houston & Sons	3,995	0	0
Wm. Logan & Sons	3,990	0	0
McRoberts & Armstrong	3,911	9	3
Cairns Bros.	3,860	0	0
Henry Laverty & Son	3,856	0	0
James Moreland	3,698	0	0
I. Copeland	3,600	0	0
S. McBride	3,512	0	0
*H. McLaughlin	3,273	0	0

(All of Belfast.)

Biggleswade.—60 houses, for the R.D.C.:—

*J. Cracknell, Ltd., Peterborough	(20)	£7,762 or	£7,713
*Baxter & Worboys, Stotfold	(20)	6,870 or	6,850
*W. F. Rand, Ashwell	(8)	2,820 or	2,836
	(12)	4,160 or	4,184

(A complete list of tenderers, together with prices, is given below.)

Birkenhead.—Extensions to Bakery dept. of the Birkenhead & District Co-operative Society, Ltd.:—

*J. A. Milestone & Son, Ltd., Birkenhead £22,500

Blackburn.—Annexe to the Queen's-park Hospital, for the B.G. Mr. G. B. Pye, surveyor, Cardwell-place:—

*J. Whittaker & Son (Blackburn), Ltd., Blackburn £12,148

Bournemouth.—Erection of "super" cinema at Boscombe, accommodating 1,700 persons, for Mr. T. J. Rowley. Messrs. Jackson & Greenen, architects, 5-7, Yelverton-road, Bournemouth:—

*J. & R. Steine, Ltd., Bournemouth.
Steelwork—
*Gardiner, Son & Co., Ltd., Bristol.

Bradford.—School for defective children, for the E.C.:—

Mason—
*A. Hoyle.
Joiners—
*E. Fearnley & Sons, Ltd.

Bridgwater.—Secondary school, for the Somerset E.C. Major A. J. Toomer, architect:—

*H. W. Pollard & Sons, Bridgwater.

Dagenham.—Steel corrugated building, for the U.D.C. Engineer and Surveyor, Valence House, Becontree-avenue, Chadwell Heath:—

*William Bain & Co., Ltd., Coatbridge.

Edgware.—Erection of a new block at Edgware Council School, for the Middlesex C.C. Mr. H. G. Crothall, F.R.I.B.A., County Architect:—

Patman & Fotheringham, Ltd., Islington	£14,241
W. Lawrence & Son, Ltd., London	14,147
C. Miskin & Sons, Ltd., St. Albans	14,100
A. Fairhead & Sons, Ltd., Enfield	14,000
H. Knight & Son, Tottenham	13,979
Albert Monk, Edmonton	13,910
Leslie & Co., Ltd., Kensington	13,641
C. J. Newby & Bros., Southgate	13,390
W. J. Maddison, Ltd., London	13,038
Y. J. Lovell & Sons, Gerrards Cross	12,975
W. Moss & Sons, Ltd., Cricklewood	12,975
G. Godson & Sons, Ltd., Kilburn	12,880

Canvey Island.—Construction of main road, for the U.D.C.:—

T. W. Pedrette	£58,500 0
*Chittenden & Simmons	58,077 19

(Subject to approval of M.T.)

Chadwell Heath.—Milk distribution depot, Chadwell Heath. Messrs. Meredith & Verlyck, architects, 7, Goodmayes-road, Goodmayes:—

F. W. Romain & Sons, Chadwell Heath	£6,562
Stedman Bros., Ilford	5,970
J. Eaton & Sons, Chelmsford	5,739
T. N. Hughes, Ltd., Ilford	5,750
*Haines & Warwick, Seven Kings	5,090

Chatham (Kent).—Extension of the Junior Technical School, for the Kent E.C. Mr. W. H. Robinson, F.R.I.B.A., County Education Architect:—

A. Newnham, Gillingham	£8,488 18
F. R. Hipperson, London	8,041 0
J. T. May, Broadstairs	7,571 0
E. D. Winn & Co., Ltd., London	7,343 0
D. Godden & Son, Ashford	7,196 0
R. Corben & Son, Maidstone	6,986 0
Unic Contractors, Ltd., Whitstable	6,728 0
Norman Smith & Son, Maidstone	6,698 0
Cox Bros., Maidstone	6,624 0
F. G. Luff, Chatham	6,617 0
G. Coe, Chislehurst	6,615 16
G. E. Wallis & Sons, Ltd., Maidstone	6,592 0
A. G. Webb & Sons, Rochester	6,574 0
C. E. Skinner & Son, Ltd., Chatham	6,564 0
J. H. Durrant & Son, Rochester	6,535 0
J. Elliman & Son, Ltd., Beckenham	6,533 0
*G. Gates & Son, Rochester	6,523 0
John B. Sharman, Ltd., Ramsgate	6,394 0

Croydon.—Cinemas, to seat 3,500 persons, restaurant, shops, etc., in High-st., for Davis' Theatres (Croydon), Ltd. Mr. R. Cromie, F.R.I.B.A., architect, 73, Edgware-rd., W.2:—

Building—
*Grace & Marsh, Ltd., Croydon.
Steelwork—
*London & Wales Construction Co., Ltd., London.
Artificial Stone—
*Patent Impervious Stone & Construction Co., Ltd., London.
Portland Stone—
*Bath & Portland Stone Firms, Ltd., London.

Curragh Camp.—Painting and general repairs to the military camp:—

*M. Barrett, Kells.

Dublin.—Extension to the offices of Messrs. John Player & Son's factory, Botanic-road. Messrs. Ashworth & Smith, architects, 12, William-street:—

*G. & T. Crampton, Ltd.

Dublin.—Internal painting work required at the Pigeon House Hospital, for the Borough Commissioners:—

*J. Daly, Dublin £360

Dublin.—Rebuilding 28, Upper Sackville-street, for Messrs. Alex. Findlater & Co., Ltd. Messrs. Ashworth & Smith, architects, 12, William-street:—

*H. & J. Martin, Ltd., Dublin.

Dublin.—Shop and house at Howth-road, Killester, for Mr. P. Kennedy. Messrs. Ashworth & Smith, architects, 12, William-street:—

*C. & T. Crampton, Ltd.

Dukinfield.—3 pairs of semi-non-parlour type houses on the Dewsnap-lane site, for the T.C. Borough Surveyor:—

*Mark Warrington & Co., Hyde.

Dundrum.—Alterations and additions to Simpson's Hospital. Messrs. Ashworth & Smith, architects, 12, William-street:—

*J. Beckett, Ltd.
Heating—
*Maguire & Gatchell, Ltd.
Fire Escape Staircase—
*Heade Bros.

Durham.—8 houses, in connection with the New Elvet Improvement Scheme, for the T.C. City Engineer and Surveyor:—

S. Moore, Newcastle	£1,907 4 0
Long & Christie, Newcastle	1,872 0 0
R. S. Bowers, Rowlands Gill	1,788 0 0
J. E. Walker, Leadgate	1,697 10 0
Elliott & Sons, Durham	1,670 0 0
T. Coates, Durham	1,625, 0 0
A. Elcoat, Bearpark, Durham	1,577 10 0
T. Ainsley, Heaton	1,562 0 0
T. W. Raper, Stanley	1,560 0 0
Charles & Co., Birtley	1,550 0 0
Rutter & Sons, Esh, Durham	1,550 0 0
W. Smith, Bearpark, Durham	1,515 0 0
F. T. & R. Veeners, Cleadon	1,499 2 3
†J. W. White, Sunderland	1,477 10 0

Earby.—For works in connection with construction of new reservoir at Baw Head, for the U.D.C. Mr. E. J. Silcock, consulting engineer, 25, Victoria-street, S.W.1:—

*D. Thompson & Son, Carlisle £12,100

Eccles.—For works in connection with the erection of a sub-station between Peel Green-road and Mount-street, for the T.C. Mr. F. C. Elce, Borough Engineer and Surveyor:—

*James Cocker, Ltd., Walkden.

Eccleshill.—18 houses at the Harrogate-road site:—

*Rufus North & Co.

Edinburgh.—Two steel plate web girder bridges, including abutment and wing walls and with reinforced concrete decking, over Barnton branch of L.M.S. Rly. and bridge No. 2 over Leith and Granton branch of L.M.S. Rly. on new Glasgow-Edinburgh-road, for the T.C. Mr. D. A. Donald, engineer, 271, Alexandra-parade, Glasgow:—

*Murdoch, Mackenzie, Ltd., Motherwell.

Elstree, Herts.—Studios, etc., for Whitehall Films, Ltd. Messrs. Leathart & Granger, FF.R.I.B.A., architects, Adam-st., Adelphi, W.C.2:—

*W. Moss & Sons, Ltd., London.

Halton.—Bungalow, for Mr. J. Hardacre.—Mr. R. J. Skilling, architect, 88, King-street, Lancaster:—

Excavator and bricklayer—
*N. Fairbrother, Bare, Morecambe £256 11 3
Carpenters and joiners—
*T. Preston & Sons, Halton Lancaster 127 1 0
Slaters and plasterers—
*Thompson & Bailey, Lancaster ... 123 0 0

Hounslow.—New Roman Catholic Church, in Bath-rd. Messrs. Leonard Stokes & Drysdale, FF.R.I.B.A., 17, Buckingham-st., Strand, W.C.:—

*W. Lacey, Hounslow.

Hove.—Timber groyne opposite the Western Esplanade, for the T.C. Borough Surveyor:—

*J. Shelborne & Co., Ltd., London £1,313 16 9

Idle (Yorks).—11 houses at Kingston-grove:—

*A. Robinson, Ltd.

Ilford.—Premises for Messrs. G. Whites & Co., Ltd. Messrs. Meredith & Verlyck, architects, 7, Goodmayes-road, Goodmayes:—

E. A. Mathews, Streatham Hill	£6,534
Haines & Warwick, Seven Kings	6,475
T. N. Hughes, Ilford	6,040
*J. Eaton & Sons, Chelmsford	5,814

Kanturk.—Attendants' quarters, at the hospital, for the North Cork County Board of Public Assistance:—

Coughlan Bros., Cork	£3,476 0 0
W. J. Thornton, Kanturk	3,130 0 0
*J. H. Keeffe, Mallow	3,023 14 4

Kidderminster.—8 houses at Poplar-row:—

*J. H. Smith.

Leek.—Alterations to 17, Derby-street, for the Midland Bank, Ltd. Messrs. Woolfall & Eccles, architects, 60, Castle-street, Liverpool:—

*W. Lovatt & Sons, Wolverhampton.

Leicester.—81 houses, for T.C.:—

‡Banbury & Sowden, Leicester £29,127

Lichfield.—Removal and re-erection of the city's clock tower, for the T.C.:—

*W. Kendrick & Sons, Ltd., Walsall £1,070

Linton.—For the building of cottages at Whittlesford and Shudy Camps, for the R.D.C.:—

R. L. Harradine	£4,190 0
R. & P. Cope	4,047 10
*H. R. Painton	3,950 0
T. Harding & Son	3,975 0
P. Shanks	4,200 0
E. Rooke & Son	4,195 0
T. Russell	4,050 0
Shudy Camps—	
R. & P. Cope	1,700 0
*H. R. Painton	1,495 0
E. Rooke & Son	1,578 0
T. Russell	1,500 0

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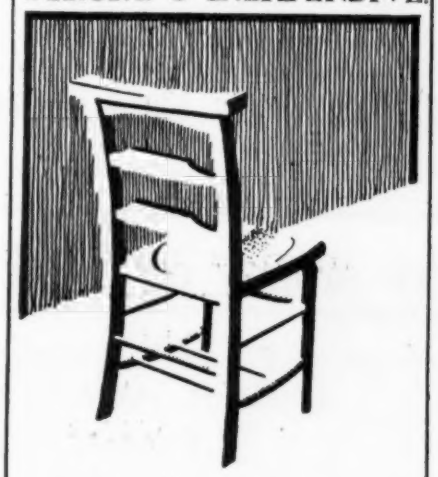
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London.—138 "A" type houses and 54 "B" type houses and 32 flats on the Grove Park housing site, for the Lewisham B.C.:—

	(*Including steel casements*)
G. V. Farrar & Co.	£167,872 0 0
Thomas & Edge	144,742 0 0
R. Corben & Son	144,056 3 6
Hill & Gurr	139,338 19 0
J. Elliman & Son, Ltd.	134,406 0 0
Cole Loasby & Co., Ltd.	133,143 0 0
Griffith, Sons & Cromwell, Ltd.	130,580 0 0
R. Mansell	128,687 0 0
Cocks & Filbey	128,248 0 0
Perrys (Ealing), Ltd.	124,610 0 0
W. H. Blay	122,945 0 0
H. M. Nowell	116,045 17 0
Wilson, Lovatt & Sons, Ltd.	115,812 0 0
Petren Houses, Ltd.	112,557 12 0
S. C. Moss	112,410 0 0
E. Clark & Sons	110,120 0 0
Concrete Houses, Ltd. (*special concrete construction*)	108,508 0 0
F. E. Vernon	106,140 0 0
J. W. Ellingham, Ltd.	106,041 16 0
Rees & Co., Ltd.	105,081 0 0
Gee, Walker & Slater, Ltd.	104,510 0 0
Unit Construction Co., Ltd.	103,057 0 0
Chas. J. Doyle	103,044 0 0
Walter Jones & Sons, Ltd.	102,423 4 0
David Weston & Co., Ltd.	99,775 3 5

The following tenders for the erection of 48 "A" type and 54 "B" type houses only were received:—

Blackwell & Meyer	£62,521 0 0
W. H. Peckover	61,970 0 0
Streek & Co., Ltd.	57,192 0 0
Martin & Pearce	57,163 19 6

(All of London.)

London.—Erection of a porter's lodge, weighbridge foundation and alteration to entrance gateway to the Greenwich and Deptford Institution. Mr. A. Roberts, F.R.I.B.A., architect, 92, London-street, Greenwich, S.E.10:—

Franks & Simons	£1,643
H. Groves & Son	1,246
T. D. Leng	1,194
W. Mills & Sons, Ltd.	1,133
Hudson Bros. (Builders), Ltd.	1,120
Streek & Co., Ltd.	1,070
W. J. Turpin	1,050
Wade, Archer & Co., Ltd.	911
‡Geo. Coe	850

(All of London.)

Maidstone.—Erection of block of Offices, at "Springfield," Maidstone, for the Kent E.C. Mr. W. H. Robinson, F.R.I.B.A., County Education Architect:—

Jenner & Son, Folkestone	£9,897 0 0
D. Godden & Son, Ashford	9,573 0 0
G. H. Denne & Son, Deal	9,171 0 0
Barden & Head, Maidstone	9,145 0 0
C. H. H. Kenworthy, Herne Bay	8,661 0 0
J. E. Billings & Co., Ltd., London	8,502 0 0
W. W. Martin, Ramsgate	8,549 0 0
W. Edmonds & Son, Rochester	8,440 0 0
H. J. & A. Wright, Ltd., Great Missenden	8,266 0 0
G. Gates & Sons, Rochester	8,218 0 0
G. Ansett & Son, Maidstone	8,210 0 0
H. Goodsell, Maidstone	8,029 0 0
Clarke & Epps, Maidstone	7,890 0 0
Pickup & Earl, Maidstone	7,880 0 0
Whiting Bros., Faversham	7,800 0 0
R. Corben & Son, Maidstone	7,749 0 0
C. E. Skinner & Son, Ltd., Chatham	7,737 0 0
Norman Smith & Son, Maidstone	7,720 0 0
G. E. Wallis & Sons, Ltd., Maidstone	7,693 0 0
John B. Sharman, Ltd., Ramsgate	7,650 0 0
Cox Bros., Maidstone	7,310 7 6
Pearce Bros., Maidstone	7,307 12 8
R. Lawrence, Maidstone	7,109 17 3
‡Messrs. J. Elliman & Son, Ltd., Beckenham	6,943 0 0

Manchester.—Conversion of foundry into raincoat factory at Sussex-street, Lower Broughton, for Messrs. Stark Bros. Messrs. T. A. Fitton & Sons, architects, 19a, Corporation-street:—

*A. Tomkins, Lower Broughton.

Manchester.—Additions to Brunswick Mills, Bradford-road, Ancoats, for Messrs. H. Bannerman & Sons, Ltd.:—

*A. Williams & Co., Ancoats.
Steelwork—
*C. G. Dunkerley & Co., Ltd., Manchester.

Middleton.—48 houses on the Boarshaw estate, for the Corporation. Borough Architect:—

*J. Gleeson, Ltd., Sheffield £17,264

Nenagh.—Operating theatre at the District Hospital, for the North Tipperary Health Board:—

*Dwyer & Fogarty.

North Berwick.—Shelter and offices at corner of Quality-street and Melbourne-place, for the T.C. Mr. A. Robertson, B.S.:—

Brickwork—
*J. Wilson, North Berwick.
Joiner work—
*J. & W. Orr, Haddington.
Plaster work—
*G. Baillie, North Berwick.
Plumber work—
*A. Ingles, Gullane.
Tilework—
*Clunas & Co. Edinburgh.
Painter work—
*J. T. A. Lumsden, North Berwick.
Electric light work—
*A. Mann, Gullane.

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North Dublin.—11 cottages, for the R.D.C.:—
10 Cottages at Cabra—
P. J. Claffey (*concrete blocks*) £4,075
J. Rooney (*concrete blocks*) 3,985
Farmer Bros. (*concrete blocks*) 3,941
Lacy & Sons (*mass concrete*) 3,740
*Farmer Bros. (*mass concrete*) 3,721
Cottage at Killester—
Farmer Bros. £395
*P. J. Claffey 339

Norwich.—New offices, for Messrs. Steward & Patteson, Ltd., Pockthorpe Brewery, Norwich. Messrs. Frederick W. Skipper & Son, A.R.I.B.A., architects and surveyors, 55, London-street:—
Cornish & Gaymer, Ltd. £15,350
T. Gill & Son 13,149
J. Youngs & Son, Ltd. 12,987
*F. R. Hipperson 12,197

Oxford.—220 houses on the Gipsy-lane site, for the T.C.:—
*Rogers & Davies, Ltd., Cardiff £92,180

Oxford.—Construction of the roads and sewers on the South Park site, for the T.C.:—
*H. Osman & Co., Oxford £12,560 10 8

Oxted.—Bank premises, for Messrs. Barclays Bank, Ltd. Messrs. Trehearne & Norman, F.R.I.B.A., architects:—
*Ringmer Building Works.

Ripon.—Providing and laying of 1,276 lineal yards of 4-in. cast-iron or spun iron pipes, 2,000 lineal yards, or thereabouts, of 3-in. cast-iron pipes, together with construction of a covered service reservoir, windmill, engine house, oil engine, hydrants, valves, and all other incidental works at Bishop Monkton, for the R.D.C. Mr. F. J. Rodwell, engineer, 37 and 38, Prudential-buildings, Park-row, Leeds:—
*H. Grange, Pateley Bridge £2,318

Sandown (I. of W.).—Enlargement of the eastern public lavatories on the Esplanade, for the U.D.C. Mr. Tom Josey, engineer and surveyor:—
H. Ingram & Sons, Albert-road, Ventnor £272 0
W. Brown, Albert-road, Sandown ... 262 10
W. J. Attrill, Royal-street, Sandown 220 0
H. W. Brown, Alfred-road, Lake, Sandown 200 0
*Sadler Co., Cosham Hants 162 0

Uxbridge.—2 hospital ward blocks and corridors at the Isolation hospital, Kingston-lane, for the Joint Hospital Board. Mr. William L. Eves, F.R.I.B.A., architect, 54, High-street:—
*Fassnidge & Sons, Uxbridge ... £6,027 0 0

Uxbridge.—Erection of "The Peggy Bedford," Harmondsworth, for the Harman's Uxbridge Brewery, Ltd.:—
*Fassnidge & Sons, Uxbridge ... £6,827 0 0

Wallasey.—26 non-parlour type houses, at Rycroft-road and Gorsedale-road housing site, for the C.B. Borough Engineer and Surveyor:—
*W. E. Hughes, Birkenhead.
(Subject to approval of M.H.)

Walsall.—New casualty department at the General Hospital, for the Committee. Messrs. Jeffries & Shipley, architects, Kingscourt, Bridge-street. Quantities by the architects:—
*J. R. Deacon, Lichfield £6,888 9 0

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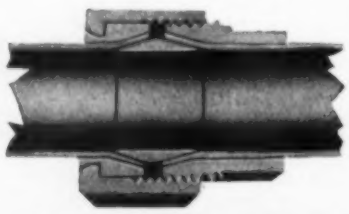
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